

# WebAssign®



WebAssign  
Student Guide  
August 2015

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Order the WebAssign service from:

WebAssign

NC State Centennial Campus

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Raleigh, NC 27606

Web: <http://webassign.net>

Tel: (800) 955-8275 or (919) 829-8181

Fax: (919) 829-1516

Email: [info@webassign.net](mailto:info@webassign.net)

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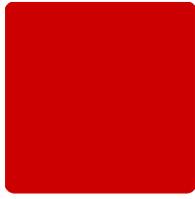
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# Release Notes

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Release notes describe new features and resolved issues for each release.

## August 19, 2015 Release Notes

This release resolves some reported issues with usability and grading for mathPad, calcPad<sup>®</sup>, and physPad<sup>®</sup>.

### Usability Improvements for mathPad, calcPad<sup>®</sup>, and physPad<sup>®</sup>

- Parentheses are now automatically added around fractions when they are raised to exponents.
- Students can now type all interval notation, including half-open and half-closed intervals.
- Students can now paste into mathPad, calcPad<sup>®</sup>, and physPad<sup>®</sup> answer boxes.

### Resolved Issues

Issue Summary	Issue Numbers
Empty answers were incorrectly submitted.	LEGO-7300
The help links for mathPad, calcPad <sup>®</sup> , and physPad <sup>®</sup> incorrectly opened in a new tab instead of the help window.	LEGO-7279
The application behaved incorrectly after using the TAB key to navigate between mathPad, calcPad <sup>®</sup> , and physPad <sup>®</sup> answer boxes.	LEGO-7277
Minor display issues.	LEGO-7001, LEGO-7002, LEGO-7276
Comma-delimited list items with fractions displayed incorrectly when input from keyboard.	LEGO-7000

Issue Summary	Issue Numbers
The answer was not submitted in its entirety if part of the answer was selected.	LEGO-6999

## August 5, 2015 Release Notes

This release resolves some reported issues for instructors and students.

### Resolved Issues

Issue Summary	Issue Numbers
Ask Your Teacher messages did not wrap correctly in Firefox.	LEGO-6128
Students could not start timed assignments using only the keyboard.	LEGO-7239

## July 22, 2015 Release Notes

This release includes work on physPad<sup>®</sup>.

### Resolved Issues

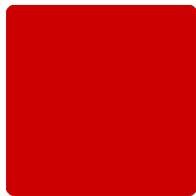
Issue Summary	Issue Numbers
A degree button was incorrectly displayed in physPad <sup>®</sup> .	LEGO-7295

## July 1, 2015 Release Notes

This release includes work on instructor facing feature.

## June 19, 2015 Release Notes

This release includes work on forthcoming features.



# System Requirements for WebAssign

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WebAssign is a Web-based application and requires broadband Internet access using a supported Web browser. Some content might also require additional plugins.

WebAssign is tested and supported for the systems and browser versions listed here.

**Mozilla® Firefox®, version 24 or later**

Windows®, Mac® OS X, Linux®

**Internet Explorer®, version 10 or later**

Windows®

**Google® Chrome™, version 35 or later**

Windows®, Mac® OS X

**Apple® Safari®, version 6 or later**

Mac® OS X, iOS 6 or later on iPad®

Other browsers and versions than those listed might also work, but are not supported. If you encounter problems when using an unsupported browser, try using a supported browser before contacting WebAssign Customer Support.

Use the following links to obtain installation instructions and downloads for the supported browsers.

- Internet Explorer®: [www.microsoft.com/windows/internet-explorer/](http://www.microsoft.com/windows/internet-explorer/)
- Mozilla® Firefox®: [www.mozilla.com/firefox/](http://www.mozilla.com/firefox/)
- Chrome™: [www.google.com/chrome/](http://www.google.com/chrome/)
- Safari®: [www.apple.com/safari/](http://www.apple.com/safari/)

## Browser Settings

Configure the following settings in your Web browser.

- Allow cookies and pop-up windows from [webassign.net](http://webassign.net).

- If you are accessing WebAssign from Blackboard®, accept third-party cookies.
- Do not allow your browser to store your WebAssign password.

See your browser's help information for specific instructions.

**See Also:**

[Problems Working on iPad](#) on page 206

[Browser Displays a Message That WebAssign is Not Supported](#) on page 205

[Screen Reader Configuration for STEM Content](#) on page 220

## Required Browser Plug-Ins

Some WebAssign content and tools require browser plugins.

WebAssign content and tools that require browser plugins are tested and supported for the following plugin versions:

- Adobe® Acrobat Reader®, version 8 or later
- Adobe® Flash® Player, version 10 or later
- Adobe® Shockwave® Player, version 11 or later
- Java™
  - MarvinSketch requires Java™ version 1.7.51.
  - The JME tool requires Java™, version 1.6.0 through 1.7.35.
  - Instructor or publisher Java™ questions or simulations might require a different version of Java™.
- Apple® QuickTime®

If you encounter problems when using advanced features of WebAssign such as mathPad or eBooks, check to be sure that you have supported versions of these plugins installed.

Additional learning resources provided by textbook publishers or instructors might require other software.

### Automatic Plug-In Version Checking

When you log in to WebAssign as a student, WebAssign checks your scheduled assignments for certain questions identified as requiring either Java™ or Flash®. If any of your assignments include these questions, your system is checked to see if you have the required plugin version installed.

 **Note:** WebAssign does *not* perform a comprehensive check of all assignment questions to determine all plugin requirements. Questions created by instructors might require other plugins or plugin versions.

If you do not have the required plugin version installed, a warning is displayed on your Home and My Assignments pages informing you about the required plugin version.

<p>One or more of the assignments on this page require Java version 1.6 or higher.</p> <p><b>Install Plugin</b>  <b>Java</b></p> <p><b>*Close all other browser windows before installing.</b> Click the Java icon to start download and installation.</p>	<p><b>Version Information</b></p> <p>You <b>do not</b> have Java installed.</p>
---	---

Click **Install Plugin** to obtain and install the required plugin.

Assignments identified by WebAssign as requiring a plugin version that is not installed display an icon indicating what plugin is required.

Clicking the assignment name displays an additional warning message.

**Java Required**

Some content on this assignment requires Java 1.6 or later, but this plugin is not installed for your browser. [More information](#)

**Install Plugin**  **Java**

Before installing this plugin, close all other browser windows.

If you open the assignment, you will not be able to answer questions that require this plugin.

Click **Install Plugin** to obtain and install the required plugin.

Some assignments contain content requiring either Adobe® Flash® Player or Java™. These assignments can be opened on an iPad®, but the content requiring Flash® or Java™ will not be displayed. Currently, this includes the following content:

- MarvinSketch questions
- pencilPad® questions
- publisher-provided content such as eBooks and tutorials that use Flash® or Java™
- instructor-provided content requiring Flash® or Java™

## Installing Browser Plug-Ins

Use the following links to obtain installation instructions and downloads for the supported browser plugins.

- Adobe® Acrobat Reader®: <http://get.adobe.com/reader/>
- Adobe® Flash® Player: [www.adobe.com/products/flashplayer/](http://www.adobe.com/products/flashplayer/)
- Adobe® Shockwave® Player: [www.adobe.com/products/shockwaveplayer/](http://www.adobe.com/products/shockwaveplayer/)
- Java™: [www.java.com/getjava](http://www.java.com/getjava)

 **Note:** Google® Chrome™, version 42 and later requires you to turn on NPAPI support before you can use the Java™ plugin. See [Can't Open MarvinSketch or Java Questions in Chrome](#) on page 212.

### See Also:

[Problems Working on iPad](#) on page 206

[Can't Open MarvinSketch or Java Questions in Chrome](#) on page 212

[Problems Installing Java on OS X](#) on page 205

[MarvinSketch Questions Do Not Display Drawing in Assignment](#) on page 211  
[MarvinSketch Window Doesn't Close and Update Drawing in Assignment](#) on page 211

## Browser Cookies and WebAssign

Like many online services, WebAssign uses an encrypted cookie file to maintain your login status while you are using WebAssign. This cookie is deleted when you log out of WebAssign or close your browser.

WebAssign's encrypted cookie file contains your username, password, and institution. This information is used to authenticate your identity each time you give or request information — like assignments or grades — from WebAssign. This helps to safeguard the security of your information without requiring you to log in repeatedly while you are using the system.

### Accessing WebAssign from Blackboard®

If you are accessing WebAssign from Blackboard®, this cookie is used to log you in automatically to WebAssign. Because the request comes from your Blackboard® system and not from WebAssign, the cookie is considered in this case to be a third-party cookie.

### Browser Settings

Most browsers are configured to accept cookies by default, so you might not need to make any changes at all. If you are being asked to log in repeatedly to WebAssign, or if your browser warns you about cookies while using WebAssign, you might want to change your browser settings.

- Allow cookies and pop-up windows from [webassign.net](http://webassign.net).
- If you are accessing WebAssign from Blackboard®, accept third-party cookies.
- Do not allow your browser to store your WebAssign password.
- Optionally, turn off browser warnings for cookies.

#### See Also:

[Enable Third-Party Cookies for Blackboard®](#) on page 214

## LockDown Browser System Requirements

LockDown Browser is supported only for Microsoft® Windows® and Mac® OS X with supported Web browsers installed.

Assignments requiring LockDown Browser cannot be completed on Linux® or iOS devices because LockDown Browser cannot be installed on those devices.

### Microsoft® Windows®

Internet Explorer®, version 10 or later must be installed. It does not need to be the default browser, and you do not need to use this browser to open WebAssign.

## **Mac® OS X**

Apple® Safari®, version 6 or later must be installed. It does not need to be the default browser, and you do not need to use this browser to open WebAssign.

### **See Also:**

[Work on an Assignment with LockDown Browser](#) on page 43



# 1

## Log in

---

### This chapter contains the following topics:

- [Look Up Your Username and Institution](#)
- [Reset Your Password](#)
- [Other WebAssign Login Sites](#)
- [Log Out](#)

For most institutions, you can log in to WebAssign at [webassign.net/login.html](http://webassign.net/login.html).

Some institutions, departments, or instructors might log in to WebAssign differently. You might log in through your school's authentication server, or using a course management system like Blackboard®.

Before logging in to WebAssign on a shared computer, such as a lab or library computer, exit all open Web browsers. Then, open a new browser session to start using WebAssign.

### To log in to WebAssign (most institutions):

1. Go to [webassign.net/login.html](http://webassign.net/login.html).

2. Type your **Username**, **Institution** code, and **Password**.

Depending on how you are enrolled in your classes, you might receive a WebAssign username and password from your instructor or your school, or you might create your own WebAssign username and password when you self-enroll in a class using a class key.

You might also have more than one WebAssign username. Be sure to log in using the correct username and password for the class you are trying to access. After logging in, you can [Link Multiple Accounts](#) on page 18 so you only need to remember one username and password.

3. Click **Log In**.

 **Important:**

- The first time you log in to any WebAssign account, set your email address and change your password.
- After you finish working in WebAssign, log out of WebAssign and exit the browser completely. This helps ensure that nobody else can access your account.

**See Also:**

[Change Your Contact Information](#) on page 19

[Link Multiple Accounts](#) on page 18

[Change Your Password](#) on page 21

[Use WebAssign in a Blackboard Course](#) on page 12

[Access WebAssign From Canvas](#) on page 13

[Access WebAssign From Desire2Learn](#) on page 14

[Access WebAssign From Moodle](#) on page 15

## Look Up Your Username and Institution

You can have your username and institution code sent to the email address associated with your WebAssign account.

### To look up your username and institution code:

1. On the WebAssign login page, click **Forgot your username?**.  
Alternatively, go to [www.webassign.net/login.html?username=forgot](http://www.webassign.net/login.html?username=forgot).
2. Enter the email address associated with your WebAssign account.

3. Click **Submit**.

A message containing your username and institution code is sent to the email address you provided.

 **Note:** You will not receive any message if the email address you provide is not associated with a WebAssign account or is not valid.

## Reset Your Password

You can reset your WebAssign password if needed by providing your username, institution code, and email address. You can also use this procedure to set your password if your instructor created an account for you but did not give you a password.

 **Note:** If WebAssign uses your institution's authentication server, use your school's method for changing your password.

### To reset your password:

1. On the WebAssign login page, click **Forgot your password**.  
Alternatively, go to [www.webassign.net/login.html?password=forgot](http://www.webassign.net/login.html?password=forgot).
2. Type the **Username**, **Institution** code, and **Email Address** for your WebAssign account.

3. Click **Submit**.

A message containing instructions for resetting your password is sent to the email address you provided.

 **Note:** You will not receive any message if your information you provide does not exactly match your WebAssign account or if you have not specified an email address in WebAssign.

If you do not receive a message, ask your instructor to reset your password.

4. In the email message, click the displayed **Reset Password** button or link.

5. On the Set-Password page, type your new password in the **Enter new password** and **Confirm new password** fields.
6. Click **Submit**.

A confirmation message verifies that your password was changed or indicates why it was not changed.

**See Also:**

[Change Your Password](#) on page 21

## Other WebAssign Login Sites

Students and instructors at the following institutions might log in using Blackboard® or a different Web address than [webassign.net/login.html](http://webassign.net/login.html).

Institution	Login Information
Adrian College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Alabama A&M University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Alabama State University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Arizona State University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Arkansas State University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Arkansas State University, Mountain Home	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Athens State University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Atlantic Cape Community College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Auburn University at Montgomery	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Auckland University of Technology	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Bentley University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Boise State University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Carnegie Mellon University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Catawba Valley Community College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Central Carolina Community College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Chapman University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Charter Oak State College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Clemson University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Cleveland Community College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Coastal Carolina Community College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
College of Southern Idaho	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.

Institution	Login Information
Colorado School of Mines	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Columbus State Community College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Community College of Allegheny County	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Community College of Baltimore County	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Convent of the Sacred Heart High School, CT	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Des Moines Area Community College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Fisher College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Florida A&M University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Florida State University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Foothill College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Forsyth Technical Community College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Freed-Hardeman University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Fresno City College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Gardner-Webb University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Georgia Institute of Technology - Physics Department	Use <a href="http://www.webassign.net/gatech/login.html">www.webassign.net/gatech/login.html</a> or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Grand Valley State University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Grayson College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Hamilton College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Hillsborough Community College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Hodges University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Illinois Institute of Technology	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Indiana University - Purdue University, Fort Wayne	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Johnston Community College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Kaskaskia College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Kennebec Valley Community College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Kettering University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Lamar University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Lebanon Valley College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.

<b>Institution</b>	<b>Login Information</b>
Lewis University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Mary Institute and St. Louis Country Day School	Use <a href="http://www.webassign.net/micds/login.html">www.webassign.net/micds/login.html</a> or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Mississippi Virtual Community College System	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Montgomery College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Moody Bible Institute	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Morehead State University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Murray State University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Muskegon Community College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
New York University	Use <a href="http://www.webassign.net/nyu/login.html">www.webassign.net/nyu/login.html</a> or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
New York University Polytechnic School of Engineering	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
North Carolina State University	Use <a href="http://www.webassign.net/ncsu/login.html">www.webassign.net/ncsu/login.html</a> .
North Central Michigan College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Northeast Alabama Community College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Northeast Texas Community College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Northern New Mexico College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Northern Oklahoma College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
North Platte Community College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Northwestern University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Ohio State University	Use <a href="http://www.webassign.net/osu/login.html">www.webassign.net/osu/login.html</a> .
Ohio University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Ohio Wesleyan University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Oklahoma State University - Math Placement	Use <a href="http://www.webassign.net/okstate/mathplacement.html">www.webassign.net/okstate/mathplacement.html</a> or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Penn State University (except for World campus)	Use <a href="http://www.webassign.net/psu/login.html">www.webassign.net/psu/login.html</a> or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Princeton University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Purdue University	Use Blackboard®, or <a href="http://www.webassign.net/purdue/login.html">www.webassign.net/purdue/login.html</a> , or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Richard Stockton College of NJ	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Riverside Community College, CA	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.

Institution	Login Information
Ryerson University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Seattle Pacific University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Seneca Community College, ON	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Siena College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Southwestern Assemblies of God University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
St. Edward's University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
St. Joseph's College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
St. Joseph's University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Stony Brook University	Use Blackboard®, or <a href="http://www.webassign.net/sunysb/login.html">www.webassign.net/sunysb/login.html</a> , or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Strayer University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Suffolk University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Tallahassee Community College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Tarleton State University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
TCI College of Technology, NYC	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Texas A & M	Use <a href="http://www.webassign.net/tamu/login.html">www.webassign.net/tamu/login.html</a> or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Texas A & M, Corpus Christi	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
The University of Tulsa	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Treasure Valley Community College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Troy University	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Ultimate Medical Academy	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
United States Military Academy	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Alabama, Tuscaloosa	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Alabama at Birmingham	Use <a href="http://www.webassign.net/uab/login.html">www.webassign.net/uab/login.html</a> or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Alaska, Fairbanks	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Arkansas, Fort Smith	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of California, Merced	Use <a href="http://ucmcrops.ucmerced.edu/xsl-portal/">ucmcrops.ucmerced.edu/xsl-portal/</a> or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of California, Riverside	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Cincinnati	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Colorado	Use <a href="http://www.webassign.net/colorado/login.html">www.webassign.net/colorado/login.html</a> .
University of Connecticut	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.

Institution	Login Information
University of Florida	Use <a href="http://www.webassign.net/ufl/login.html">www.webassign.net/ufl/login.html</a> or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Houston	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Illinois, Urbana-Champaign	Use <a href="http://www.webassign.net/uiuc/login.html">www.webassign.net/uiuc/login.html</a> or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Kansas	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Kentucky	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Maryland, Eastern Shore	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Maryland, Math Department and Math Placement	Use <a href="http://www.webassign.net/umd/login.html">www.webassign.net/umd/login.html</a> or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Massachusetts Online	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Michigan, Flint	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Mississippi	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Missouri, St. Louis	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Nebraska, Lincoln	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Nevada, Reno	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of North Carolina, Greensboro	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of North Texas	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Oregon	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Pittsburgh	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Pretoria	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Southern Mississippi	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of St. Thomas	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Tennessee, Knoxville	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Texas at Dallas	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Utah	Use <a href="http://www.webassign.net/utah/login.html">www.webassign.net/utah/login.html</a> .
University of Virginia	Use <a href="http://www.webassign.net/uva/login.html">www.webassign.net/uva/login.html</a> or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University of Washington	Use <a href="http://www.webassign.net/washington/login.html">www.webassign.net/washington/login.html</a> .
University of Wisconsin, Madison	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
University System of Georgia	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Virginia Wesleyan College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Wake Technical Community College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.
Wharton County Junior College	Use Blackboard® or <a href="http://webassign.net/login.html">webassign.net/login.html</a> , depending on the class.

**See Also:**

[Use WebAssign in a Blackboard Course](#) on page 12

[Access WebAssign From Canvas](#) on page 13

[Access WebAssign From Desire2Learn](#) on page 14

[Access WebAssign From Moodle](#) on page 15

## Log Out

When you finish working on your assignments, log out of WebAssign and exit the browser completely to ensure that nobody else can see your work or access your account.

To log out, click **Log out** at the top right.

 **Note:** If you use a browser that is shared by others, make sure the browser does not save your password.



# 2

## Access WebAssign From a Learning Management System

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**This chapter contains the following topics:**

- [Use WebAssign in a Blackboard Course](#)
- [Access WebAssign From Canvas](#)
- [Access WebAssign From Desire2Learn](#)
- [Access WebAssign From Moodle](#)

In some courses, you might access WebAssign from a learning management system instead of logging in to WebAssign directly.

## Use WebAssign in a Blackboard® Course

Some courses use both Blackboard® and WebAssign. Your instructor might have linked the WebAssign and Blackboard® courses so you can access WebAssign directly from Blackboard®.

 **Note:** Ask your instructor if you are not sure whether your course uses Blackboard® and WebAssign.

### Score Display

At some schools, your scores on WebAssign assignments might be displayed in Blackboard®. However, scores shown in Blackboard® are not updated instantly when you submit your WebAssign assignments. Instead, these scores are updated once a day or less often, depending on the Blackboard® administrator and your instructor.

#### See Also:

[Your WebAssign Account](#) on page 17

[System Requirements for WebAssign](#) on page ix

## Enrollment in WebAssign Classes from Blackboard®

If your instructor linked a WebAssign course to the Blackboard® course in which you are enrolled, your instructor will enroll you in the WebAssign course by syncing the Blackboard® class roster. You can navigate directly to the WebAssign course from Blackboard®.

 **Note:** Ask your instructor if you are not sure whether your course uses Blackboard® and WebAssign.

## Access WebAssign from Blackboard®

If your instructor linked a WebAssign course to the Blackboard® course in which you are enrolled, you can navigate directly to the WebAssign course from Blackboard®.

 **Note:** Ask your instructor if you are not sure whether your course uses Blackboard® and WebAssign.

To access WebAssign directly from Blackboard®, your browser must be configured to accept third-party cookies.

### To access WebAssign from Blackboard®:

1. Log in to Blackboard®.
2. Click the **Courses** tab.
3. Click a course in which you are enrolled.

4. In the course menu, click **Tools**.

5. Click either **Access WebAssign** or **WebAssign**.

The name of the tool depends on the version of the WebAssign building block that is installed by the Blackboard® administrator.

The first time you access WebAssign from Blackboard® with the WebAssign building block version 2.0.1 or later, a new linked WebAssign account is automatically created for you.

 **Note:** If you need access to a previous WebAssign account, you can link the accounts.

If you can access WebAssign from Blackboard®, do not log into WebAssign directly.

**See Also:**

[Blackboard Not Available](#) on page 215

[Not Automatically Logged in to WebAssign from Blackboard](#) on page 214

[Link Multiple Accounts](#) on page 18

## User Data Migration for WebAssign Accounts Linked to Blackboard®

If you have a linked WebAssign account and your school has been using version 1.02 or earlier of the WebAssign building block for Blackboard®, your WebAssign username will change after an upgrade to version 2.1.3 or later of the building block. Your Blackboard® account is not changed, and you can continue to access WebAssign through Blackboard®.

No account changes are made for WebAssign building block upgrades from version 2.0.1 and later.

After the WebAssign building block is upgraded from version 1.02 or earlier to version 2.1.3 or later, a new linked WebAssign account is created the first time your class roster is synced with WebAssign or you access WebAssign from Blackboard®.

If needed, you can link another WebAssign account to your new WebAssign account if you know the WebAssign username and password for the other account. See [Link Multiple Accounts](#) on page 18.

 **Note:** After this migration, do not log into WebAssign directly, but only through Blackboard®.

## Access WebAssign From Canvas™

If your instructor set up a link between your Canvas™ class and WebAssign, you can log in to WebAssign directly from your Canvas™ class.

You can access WebAssign directly from Canvas™, but not the other way around.

No student information is transferred between the two systems except for that required to log you in to WebAssign and enroll you in the correct class section. Scores and grades are not exchanged between the two systems.

When you click the WebAssign integration link for the first time:

- You can either create a new WebAssign user account or link to an existing account.
- You are automatically enrolled in the linked WebAssign class section.

When you click the WebAssign integration link after the first time, you are automatically logged in to WebAssign.

### To access WebAssign from Canvas™:

1. Click the WebAssign integration link your instructor created.
2. **The first time you connect to WebAssign:**

If	Do this
<b>You have used WebAssign before at your current school</b>	On the Link Account page, enter your WebAssign username and password, and then click <b>Link Account</b> .
<b>You haven't used WebAssign at your current school</b>	<ol style="list-style-type: none"> <li>1. On the Link Account page, click <b>I don't have a WebAssign account</b>.</li> <li>2. On the Create an Account page, choose a username.</li> <li>3. Enter your name and email address if they are not already provided by the system you are linking from.</li> <li>4. Click <b>Create Account</b>.</li> </ol>

Your accounts are linked and you are enrolled in the WebAssign class your instructor created.

The next time you click the WebAssign integration link, you will be automatically logged in to WebAssign.

#### See Also:

[Your WebAssign Account](#) on page 17

[System Requirements for WebAssign](#) on page ix

## Access WebAssign From Desire2Learn®

If your instructor set up a link between your Desire2Learn® class and WebAssign, you can log in to WebAssign directly from your Desire2Learn® class.

You can access WebAssign directly from Desire2Learn®, but not the other way around.

No student information is transferred between the two systems except for that required to log you in to WebAssign and enroll you in the correct class section. Scores and grades are not exchanged between the two systems.

When you click the WebAssign integration link for the first time:

- You can either create a new WebAssign user account or link to an existing account.
- You are automatically enrolled in the linked WebAssign class section.

When you click the WebAssign integration link after the first time, you are automatically logged in to WebAssign.

## To access WebAssign from Desire2Learn®:

1. Click the WebAssign integration link your instructor created.
2. **The first time you connect to WebAssign:**

If	Do this
<b>You have used WebAssign before at your current school</b>	On the Link Account page, enter your WebAssign username and password, and then click <b>Link Account</b> .
<b>You haven't used WebAssign at your current school</b>	<ol style="list-style-type: none"> <li>1. On the Link Account page, click <b>I don't have a WebAssign account</b>.</li> <li>2. On the Create an Account page, choose a username.</li> <li>3. Enter your name and email address if they are not already provided by the system you are linking from.</li> <li>4. Click <b>Create Account</b>.</li> </ol>

Your accounts are linked and you are enrolled in the WebAssign class your instructor created.

The next time you click the WebAssign integration link, you will be automatically logged in to WebAssign.

### See Also:

[Your WebAssign Account](#) on page 17

[System Requirements for WebAssign](#) on page ix

## Access WebAssign From Moodle™

If your instructor set up a link between your Moodle™ class and WebAssign, you can log in to WebAssign directly from your Moodle™ class.

You can access WebAssign directly from Moodle™, but not the other way around.

No student information is transferred between the two systems except for that required to log you in to WebAssign and enroll you in the correct class section. Scores and grades are not exchanged between the two systems.

When you click the WebAssign integration link for the first time:

- You can either create a new WebAssign user account or link to an existing account.
- You are automatically enrolled in the linked WebAssign class section.

When you click the WebAssign integration link after the first time, you are automatically logged in to WebAssign.

### To access WebAssign from Moodle™:

1. Click the WebAssign integration link your instructor created.
2. **The first time you connect to WebAssign:**

If	Do this
<b>You have used WebAssign before at your current school</b>	On the Link Account page, enter your WebAssign username and password, and then click <b>Link Account</b> .
<b>You haven't used WebAssign at your current school</b>	<ol style="list-style-type: none"><li>1. On the Link Account page, click <b>I don't have a WebAssign account</b>.</li><li>2. On the Create an Account page, choose a username.</li><li>3. Enter your name and email address if they are not already provided by the system you are linking from.</li><li>4. Click <b>Create Account</b>.</li></ol>

Your accounts are linked and you are enrolled in the WebAssign class your instructor created.

The next time you click the WebAssign integration link, you will be automatically logged in to WebAssign.

#### See Also:

[Your WebAssign Account](#) on page 17

[System Requirements for WebAssign](#) on page ix



# Your WebAssign Account

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**This chapter contains the following topics:**

- [Look Up Your Username and Institution](#)
- [Link Multiple Accounts](#)
- [Unlink Accounts](#)
- [Change Your Contact Information](#)
- [Change Your Password](#)
- [Reset Your Password](#)
- [Set Up Email Reminders](#)

You can update your email address and password for a WebAssign account or link multiple WebAssign accounts to use a single username and password.

**See Also:**

- [Use WebAssign in a Blackboard Course](#) on page 12
- [Access WebAssign From Canvas](#) on page 13
- [Access WebAssign From Desire2Learn](#) on page 14
- [Access WebAssign From Moodle](#) on page 15
- [System Requirements for WebAssign](#) on page ix

## Look Up Your Username and Institution

You can have your username and institution code sent to the email address associated with your WebAssign account.

### To look up your username and institution code:

1. On the WebAssign login page, click **Forgot your username?**.  
Alternatively, go to [www.webassign.net/login.html?username=forgot](http://www.webassign.net/login.html?username=forgot).

2. Enter the email address associated with your WebAssign account.

3. Click **Submit**.

A message containing your username and institution code is sent to the email address you provided.

 **Note:** You will not receive any message if the email address you provide is not associated with a WebAssign account or is not valid.

## Link Multiple Accounts

If you have more than one WebAssign account for the same institution, you can link them so you can log in to all of them using any of your usernames and passwords. This way, you do not need to remember a separate login for each WebAssign account you have.

 **Important:** Do not link your accounts if you log in to WebAssign through your school's Web site or from a learning management system such as Blackboard®.

Usually if this is the case, you will not have more than one account; but if you do, linking might not work or might result in your work being synced incorrectly with the learning management system.

The information you have in different accounts remains separate when you link accounts — the only thing that changes is that all of the classes for all of your linked WebAssign accounts will be displayed whenever you log in to any of those accounts.

### To link your accounts:

1. Log in to WebAssign using one of your username and password combinations.
2. Click **My Options** in the menu bar.
3. Click the **Accounts** tab.
4. Under **Link Accounts**, enter the username and password of the WebAssign account you are linking to.

You can link more than one account.

5. Enter the password for the account you are logged in with, and click **Save** to save your changes.

### Example

One of your WebAssign accounts has a username you cannot easily remember, such as **zh7yz123**. The login information for the account you are signed into right now (**krwright**) is the one you want to use for all of your accounts.

In this example, you would enter the username **zh7yz123** and the password for **zh7yz123** in the Link Accounts section, and then you would enter the password for the current account (**krwright**) in the **Password** field at the bottom of the window and click **Save**.

#### See Also:

[Unlink Accounts](#) on page 19

## Unlink Accounts

If you linked more than one WebAssign account, you can unlink any account if needed.

 **Important:** Do not link your accounts if you log in to WebAssign through your school's Web site or from a learning management system such as Blackboard®.

Usually if this is the case, you will not have more than one account; but if you do, linking might not work or might result in your work being synced incorrectly with the learning management system.

### To unlink one of your accounts:

1. Log in to WebAssign using one of your username and password combinations.
2. Click **My Options** in the menu bar.
3. Click the **Accounts** tab.
4. Under **Linked Accounts**, select the **unlink** check box for each account you want to unlink.
5. Enter the password for the account you are logged in with, and click **Save** to save your changes.

#### See Also:

[Link Multiple Accounts](#) on page 18

## Change Your Contact Information

From time to time, you might need to update your email address or other contact information.

With a valid email address in WebAssign, you can:

- Easily reset your password if you forget it
- Receive messages that your instructor sends you from WebAssign
- Receive notifications (if enabled) of assignment due dates, announcement posts, and extension and help requests
- Receive messages from WebAssign Customer Support when needed

WebAssign will not give, sell, rent, loan, or otherwise disclose your personal information, except when we have your permission, are required to by law, or have a reasonable need to protect the rights, property, or personal safety of WebAssign, its users, or the public. In no event will WebAssign violate the federal privacy rights of students as established by the Family Educational Rights and Privacy Act (FERPA) at 20 U.S.C. 1232g and 34 C.F.R. part 99. For more information, see [webassign.com/corporate/privacy/](http://webassign.com/corporate/privacy/).

In particular, your contact information is never shared with other students.

### To change your contact information:

1. Click **My Options** in the top right.
2. Click the **Personal Info** tab if it is not already selected.
3. Add or edit the information in any of the following boxes.

Field	Example	Notes
<b>Email Address</b>	krwright@example.org	<p>The email address where you want to receive any WebAssign notifications you have enabled.</p> <p> <b>Note:</b> At some schools, you can't change your email address in WebAssign.</p> <p>Your email address is not changed until you confirm the new email address as described in step 6 on page 20.</p>
<b>Change Password</b>	••••••••	<p>You need to enter your password twice.</p> <p> <b>Note:</b> If WebAssign uses your institution's authentication server, use your school's method for changing your password.</p> <p>For more information, see <a href="#">Change Your Password</a> on page 21.</p>

 **Note:** To correct or update the name associated with your WebAssign account, ask your instructor to do this or contact WebAssign Customer Support.

4. Enter your current password in the box at the bottom.
5. Click **Save**.
6. If you changed your email address, complete the following steps to confirm your new email address:

- a) Check your email for the new email address.
- b) Open the message from support@webassign.net with the subject "Your WebAssign Email Address".
- c) Click the link in the email or paste it into your browser's address bar. If necessary, log into WebAssign.

Your email address is updated in WebAssign.

## Change Your Password

You should change your password occasionally to ensure the security of your WebAssign account.

 **Note:** If WebAssign uses your institution's authentication server, use your school's method for changing your password.

Depending on your school, different password rules apply. When you change your password, the minimum password rules for your school are displayed. Your password is case-sensitive, so, for example, **1AmCa3s@r** is not the same as **1amca3s@r**.

 **Tip:** Your school's password rules specify only the minimum requirements for your password. You can use the following guidelines to create a stronger password:

- Use at least 10 characters. Increasing the length of your password increases its strength exponentially. Your password can be up to 30 characters long.
- Use spaces. Using a phrase is one way to increase the length of your password without making it more difficult to remember.
- Use both uppercase and lowercase characters.
- Use two or more numbers.
- Use two or more symbols.

Do not include personally identifiable information like names, ID numbers, phone numbers, or birthdays in your password.

### To change your password:

1. Click **My Options** in the top right.
2. Click the **Personal Info** tab if it is not already selected.
3. In **Change Password**, enter your new password, and then re-enter it for confirmation.
4. Enter your current password in the box at the bottom.
5. Click **Save**.

A confirmation message verifies that your password was changed or indicates why it was not changed.

**My Options**

**Personal Info** Settings Accounts

Username **krwright**

Institution **WebAssign University (webassign)**

Fullname **Wright, Kenneth**

Email Address

Change Password

New password

Your password must contain at least:

- 6 total characters
- 1 letter (a-z, A-Z)
- 1 number (0-9)

Re-enter new password

*If you changed any information above, enter your current password and click Save.*

Password

**See Also:**

[Reset Your Password](#) on page 3

## Reset Your Password

You can reset your WebAssign password if needed by providing your username, institution code, and email address. You can also use this procedure to set your password if your instructor created an account for you but did not give you a password.

 **Note:** If WebAssign uses your institution's authentication server, use your school's method for changing your password.

### To reset your password:

1. On the WebAssign login page, click **Forgot your password**.  
Alternatively, go to [www.webassign.net/login.html?password=forgot](http://www.webassign.net/login.html?password=forgot).
2. Type the **Username**, **Institution** code, and **Email Address** for your WebAssign account.
3. Click **Submit**.

A message containing instructions for resetting your password is sent to the email address you provided.

**Note:** You will not receive any message if your information you provide does not exactly match your WebAssign account or if you have not specified an email address in WebAssign.  
If you do not receive a message, ask your instructor to reset your password.

4. In the email message, click the displayed **Reset Password** button or link.
5. On the Set-Password page, type your new password in the **Enter new password** and **Confirm new password** fields.
6. Click **Submit**.

A confirmation message verifies that your password was changed or indicates why it was not changed.

**See Also:**

[Change Your Password](#) on page 21

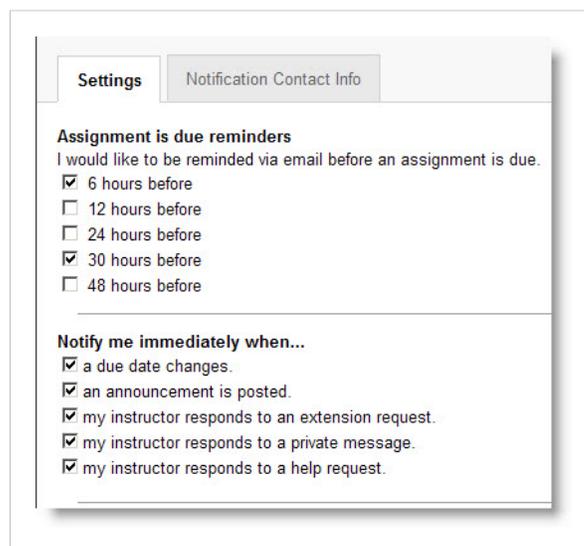
## Set Up Email Reminders

You can receive email reminders about upcoming assignment due dates or when your instructor posts an announcement, sends you a private message, or responds to your extension request or Ask Your Teacher message.

**Note:** You need a valid email address to receive notifications.

### To request email notifications:

1. Click **Notifications** in the menu bar.
2. On the Settings tab, select the notifications you want to receive.



The screenshot shows the 'Settings' tab in the 'Notification Contact Info' section. It is divided into two parts: 'Assignment is due reminders' and 'Notify me immediately when...'. In the first part, there are five radio button options: '6 hours before' (checked), '12 hours before', '24 hours before', '30 hours before' (checked), and '48 hours before'. In the second part, there are five checked options: 'a due date changes', 'an announcement is posted', 'my instructor responds to an extension request', 'my instructor responds to a private message', and 'my instructor responds to a help request'.

3. Click **Save**.

A warning is displayed if you do not have a verified email address in WebAssign.

4. Click the **Notification Contact Info** tab and verify that your email address is correct.

To update your email address:

- a) Click **edit**.
- b) Type your **New Email Address**.
- c) Type your **Password**.
- d) Click **Save**.
- e) Check your email for the new email address.
- f) Open the message from support@webassign.net with the subject "Your WebAssign Email Address".
- g) Click the link in the email or paste it into your browser's address bar. If necessary, log into WebAssign.

Your email address is updated in WebAssign.

# 4

## Classes

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### **This chapter contains the following topics:**

- [Enroll Yourself Using a Class Key](#)
- [Your Home Page](#)
- [Grace Period](#)
- [Purchase WebAssign Access](#)
- [Transfer Sections or Drop a Course](#)
- [Request a Refund](#)

To complete assignments in WebAssign, you must be enrolled in a class created by your teacher. In most cases, you also have to purchase access to the class.

You can be enrolled in a WebAssign class in one of the following ways:

#### **Self-Enrollment**

- Your instructor gives you a class key to enroll yourself in the class.
- You can use your existing WebAssign account or create a new one.

#### **Instructor Enrollment**

- Your instructor enrolls you in the class and gives you a WebAssign username, institution code, and password. You might receive an email from WebAssign with instructions for creating a new password.
- You must use the login information provided by your instructor to see your class, even if you have a different WebAssign account from a previous class.

#### **Automatic Enrollment**

- Your school automatically enrolls you in the class after you use the school's enrollment system.
- Schools with automatic enrollment often require you to log in to a school web site in order to access WebAssign. If this is the case, ask your instructor

for information about how to log in to WebAssign.

**See Also:**

[Log in](#) on page 1

[Your WebAssign Account](#) on page 17

[Use WebAssign in a Blackboard Course](#) on page 12

[Enrollment in WebAssign Classes from Blackboard](#) on page 12

[Access WebAssign From Canvas](#) on page 13

[Access WebAssign From Desire2Learn](#) on page 14

[Access WebAssign From Moodle](#) on page 15

## Enroll Yourself Using a Class Key

If your instructor gives you a WebAssign class key, you can enroll yourself in the WebAssign class roster. If you do not already have a WebAssign account, you must create one after verifying the class key.

### class key

A code you use one time to enroll in class. A class key does not verify payment.

### To self-enroll for a class:

1. Go to [webassign.net/login.html](http://webassign.net/login.html) and click **I Have a Class Key**.
2. Enter the class key your instructor gave you and click **Submit**.
3. On the verification page, check the class information and determine whether or not the correct class and section is displayed.
  - If the correct class and section is listed, click **Yes, this is my class**.
  - If the listed class or section is not correct, click **No this is not my class**.  
Try entering your class key again, in case you might have mistyped a character. If the correct class is still not displayed, contact your instructor.
4. If you have an existing WebAssign account, select **I already have a WebAssign account**, type the **Username**, **Institution**, and **Password** for your account, and click **Continue**.  
You are enrolled in the class and logged in to WebAssign using your existing account.
5. If you do not have an existing WebAssign account, you can create one now.
  - a) Select **I need to create a WebAssign account**, and then click **Continue**.

**Log In Information**

Required fields are marked with an asterisk (\*).

Preferred Username \*

krwright is available

Your username may contain letters, numbers, and the following characters: underscore (\_), hyphen (-), period (.)

Institution Code **webassign**

Password \*

Your password must contain at least:  
6 total characters  
1 letter (a-z, A-Z)  
1 number (0-9)

Re-Enter Password \*

**Student Information**

Required fields are marked with an asterisk (\*).

First Name \*

Last Name \*

Email Address \*

Student ID Number

- b) Type the username that you would like to use for your WebAssign account in the **Preferred Username** field, and click **Check Availability** to see if the username that you want is available.

Usernames in WebAssign can contain letters, numbers, and the following characters: underscore (\_), hyphen (-), and period (.). Usernames are not case-sensitive, so MaryAllen, maryallen, and mArYaLIEn are all the same username.

 **Note:** All usernames for an institution must be unique.

- c) After confirming the availability of your new username, type a password in both the **Choose a password** and **Confirm password** fields.
- Ensure that your password meets the displayed requirements, which might be different than those shown above.
- Passwords are case-sensitive, so IAmCa3sar is not the same as iamca3sar.
- d) Enter your **First Name**, **Last Name**, and **Email Address**, and optionally your **Student ID Number**.
- e) Click **Create My Account**.
- WebAssign confirms that your account has been created.

You should only enroll in the class once. After enrolling, you might also need to provide an access code to verify payment for the class.

You can click **Log in now** to log in to the new user account and go to your home page. Remember your username and password, because you will need them each time you log in.

**Tip:**

- If you forget your password, you can reset it.
- If you forget your username, you can look it up.

**See Also:**

[Log in](#) on page 1

[Look Up Your Username and Institution](#) on page 3

[Reset Your Password](#) on page 3

## Your Home Page

After you log in, you see your personalized WebAssign Home page. If you are listed on more than one class roster with the same username, or if you have linked multiple WebAssign accounts, you can select a class from the **My Classes** menu to go to the Home page for that class.

On your Home page for a particular class, you can see summary information for the class, including:

- Announcements from your instructor
- A list of your current assignments
- Links to calendar and communication pages
- Your posted grades for the class

At the top of the Home page, a menu provides quick access to pages for your assignments, grades, communication, calendar, notifications, help, and options.

## Grace Period

If you are required to pay for WebAssign access to a class, you will have a 14-day grace period during which you can use WebAssign without purchasing access.

The grace period begins with the class start date set in WebAssign by your instructor.



**Note:** Your instructor might have set the class start date earlier or later than the actual first day of class.

## During the Grace Period

During the grace period, you can complete your coursework in WebAssign. At the publisher's discretion, you might also have access to the eBook for your class, if one is available.

Each time you access your class, you will be reminded to purchase access or enter an access code.

## After the Grace Period

All coursework completed during the grace period is retained in the system and available to your instructor, but to continue using WebAssign for your class after the grace period ends, you must either purchase access online or enter a valid access code.

### See Also:

[Purchase WebAssign Access and eBooks Online](#) on page 33

[Enter Access Codes to Verify Purchase](#) on page 35

## Purchase WebAssign Access

Depending on your school, you will usually be required to purchase access to WebAssign in order to complete your coursework.

There are several options for payment:

- You can purchase access online directly from WebAssign using a Visa, MasterCard, American Express, or Discover card, or with a check and a valid PayPal account.
- Your purchase of a new textbook might include a WebAssign access code card for the course.
- You can purchase WebAssign access code cards at many campus bookstores.

 **Note:** Rarely, your instructor might need to change the textbooks used for your class after you have purchased access. If this occurs, your payment will be transferred automatically if an equivalent purchase option exists for the new textbooks. If no equivalent option exists, your payment will be refunded and you will need to purchase access to the class again.

## Choose Between eBooks and Printed Textbooks

eBooks generally contain the complete text of the printed textbook. Some eBooks also contain additional features and content not available in the printed textbook.

 **Note:** Depending on the class, eBook access might be included with WebAssign access, eBook access might be an optional purchase, or no eBook might be available.

If an eBook is available for any of your classes,  **My eBooks** is displayed in your toolbar in WebAssign. Click  **My eBooks** to display a list of the eBooks that are available.

If an eBook is available for your class, you should decide whether to purchase eBook access or the printed textbook before you purchase WebAssign access for the class. Each format has advantages and disadvantages, and you should determine which will work best for you.

You might want to review the following criteria:

Criteria	eBook	Printed Textbook
<b>Content</b>	<ul style="list-style-type: none"> <li>• Includes the full text along with all figures and tables.</li> <li>• Often includes additional content which might be interactive.</li> </ul>	<ul style="list-style-type: none"> <li>• Includes the full text along with all figures and tables.</li> </ul>
<b>Features</b>	Varies by textbook, but usually includes many of the following: <ul style="list-style-type: none"> <li>• Bookmarking</li> <li>• Highlighting</li> <li>• Annotating</li> <li>• Printing pages</li> <li>• Searching</li> <li>• Opening from assignment</li> <li>• Navigating using contents or page number</li> <li>• Viewing glossary definitions for terms in context</li> </ul>	<ul style="list-style-type: none"> <li>• Bookmarking</li> <li>• Highlighting</li> <li>• Annotating</li> </ul> Highlighting or annotating a printed textbook might reduce its resale value or prevent you from being able to sell it.
<b>Convenience</b>	<ul style="list-style-type: none"> <li>• With you wherever you have Internet access.</li> </ul>	<ul style="list-style-type: none"> <li>• With you wherever you carry it.</li> </ul>
<b>Instructor Preference</b>	<ul style="list-style-type: none"> <li>• Check with your instructor.</li> </ul>	<ul style="list-style-type: none"> <li>• Check with your instructor.</li> </ul>
<b>Requirements</b>	<ul style="list-style-type: none"> <li>• Most eBooks require either the free Flash plugin or the free Adobe Reader.</li> </ul>	<ul style="list-style-type: none"> <li>• None.</li> </ul>
<b>Accessibility</b>	<ul style="list-style-type: none"> <li>• eBooks can be zoomed to view as large text.</li> <li>• Most eBooks are readable by screen readers.</li> </ul>	<ul style="list-style-type: none"> <li>• Printed textbook might be available in a Braille or audio edition.</li> </ul>

Criteria	eBook	Printed Textbook
<b>Cost</b>	<ul style="list-style-type: none"> <li>Sometimes included with purchase of WebAssign access for your course.</li> </ul>	<ul style="list-style-type: none"> <li>When new, sometimes includes WebAssign access for one or more terms.</li> </ul>
<b>Resale</b>	<ul style="list-style-type: none"> <li>Cannot be transferred or sold.</li> </ul>	<ul style="list-style-type: none"> <li>Can often be sold at end of term for a portion of the purchase price.</li> </ul>
<b>Lifetime</b>	<ul style="list-style-type: none"> <li>Usually available only while enrolled in a class using that edition of the textbook; some eBooks can be downloaded and saved indefinitely.</li> </ul>	<ul style="list-style-type: none"> <li>Indefinitely.</li> </ul>

## Access Costs and Textbook Features

The cost of WebAssign access is dependent on the textbook selected for the class.

As with printed textbooks, the cost of WebAssign access, eBooks, or other optional purchases can vary widely between classes. WebAssign pricing is based on many factors, including agreements with textbook publishers and the quantity and complexity of textbook materials and resources that are available for use in your assignments.

Some textbooks in WebAssign include traditional end-of-chapter questions but no other features. Other textbooks provide a range of features to help you learn, for example, tutorial questions, eBook links, interactive simulations, personalized study plans, or other learning resources. Access with these textbooks costs more not only because they provide more, but also because they represent a substantial investment by the publisher and WebAssign.

Some features available in WebAssign are indicated by icons displayed with the textbook.

 **Note:** Your instructor might not choose to use all of the available features in your class.

Feature	Description
 <b>eBook</b>	<p>You have access to an online version of the textbook that might contain additional interactive features.</p> <p>You must be logged in and enrolled in a WebAssign course to access the eBook.</p> <p>For some textbooks, access to the eBook is an optional purchase.</p>
 <b>Lifetime of Edition</b>	<p>You are allowed unlimited access to WebAssign courses that use this edition of the textbook at no additional cost.</p> <p>This allows you to retake the course until you pass, or to take a multi-term course at no additional cost.</p>
 <b>Personal Study Plan</b>	<p>You can use chapter and section assessments to gauge mastery of the material and generate individualized study plans that include various online, interactive multimedia resources.</p>

Feature	Description
 <b>Textbook Resources</b>	Additional instructional and learning resources are available with the textbook, and might include testbanks, slide presentations, online simulations, videos, and documents.
 <b>Enhanced WebAssign</b>	Includes advanced content including simulations and textbook examples, links to eBook, algorithmic solutions, for example, from Brooks/Cole Publishers. Specific features vary from book to book.
 <b>WebAssignPLUS</b>	Includes textbook-specific end-of-chapter questions and tutorial exercises, interactive simulations, hints, and feedback to guide learning from John Wiley & Sons, Inc. Publishers.
 <b>Premium WebAssign</b>	Includes interactive exercises with in-depth tutorials and interactive conceptual resources that allow you to visualize concepts and see cause-and-effect relationships through online simulations from W. H. Freeman Publishers.

## Purchase WebAssign Access and eBooks Online

If your textbook did not include an access code card for WebAssign, or if you want to use an eBook for your class, you can purchase WebAssign access or eBooks for your classes online.

WebAssign uses PayPal to securely process payments. You can make your purchase with a Visa, MasterCard, American Express, or Discover card, or with a check and a valid PayPal account.

 **Note:** Depending on the class, eBook access might be included with WebAssign access, eBook access might be an optional purchase, or no eBook might be available.

In order to purchase or use an eBook, you must be currently enrolled in a class in WebAssign that uses that textbook.

### To purchase WebAssign access online:

1. Log in to WebAssign.
2. If necessary, select your class.

If you need to purchase access, a notice is displayed indicating when your grace period expires and listing your payment options:

- purchase access online
- enter an access code
- continue my trial period

After the end of the grace period, you must either purchase access online or enter an access code.

3. Select **purchase access online**.

4. Click **Continue**.

For some institutions, particularly schools using WebAssign in Blackboard®, a message is displayed.

WebAssign uses Paypal to process payments. For security, your transaction will be completed in a new browser window.

If this message is displayed, click **Complete My Purchase on PayPal**. A new browser window or tab opens for you to complete your purchase.

All of the classes for which you need to purchase access are listed. For some classes, you might be able to select among two or more options — for example, if you can purchase an optional eBook or Lifetime of Edition access.

## 5. Select the items you want to purchase.

a) Select the check box for each class for which you will purchase access.

b) If needed, select optional purchases for your classes.

c) If needed, read and confirm your agreement to any license agreements.

Click the name of the license agreement to view it. Select the check box to confirm that you agree to its terms.

6. Click **Enter payment information**.

A PayPal payment page opens.

## 7. In the PayPal page, provide your payment and contact information.

To do this	Do this
<b>Pay with a credit card</b>	<ol style="list-style-type: none"> <li>1. Click <b>Don't have a PayPal account</b>.</li> <li>2. Enter the requested billing and contact information.</li> <li>3. Click <b>Review and Continue</b>.</li> <li>4. Verify that your address and payment information is correct.</li> <li>5. Click <b>Continue</b>.</li> </ol>
<b>Pay with your PayPal account</b>	<ol style="list-style-type: none"> <li>1. Click <b>Pay with my PayPal account</b>.</li> <li>2. Log in to your PayPal account.</li> <li>3. Verify that your address and payment information is correct.</li> <li>4. Click <b>Continue</b>.</li> </ol>
<b>Pay with a check</b>	<p>Log in to your PayPal account and follow the instructions provided on the site.</p> <p> <b>Note:</b> A PayPal account is required to pay with a check.</p>

 **Note:** The payment information page is currently provided by PayPal and is subject to change without notice.

8. Review your order and click **Complete purchase**.

Depending on your address and what you are purchasing, some or all of your order might be subject to sales tax.

After clicking **Complete purchase**:

- Your account is billed.
- An email about the transaction is sent to you.
- You are granted access to the purchased items.
- Your receipt is displayed.

9. Click **Print receipt** to print the receipt for your records.

 **Note:**

- If you need to contact WebAssign Customer Support regarding this transaction, please provide the transaction ID from your receipt.
- If you drop a class, you can request a refund within 14 days of the purchase date.

10. Close your receipt to start working in WebAssign.

- Unless you needed to open a new browser window or tab, click **Close**.
- If you needed to open a new browser window or tab, close it now. Your original browser window or tab should display the message Did you successfully purchase WebAssign access? Click **Yes, start using WebAssign**.

You have access to the classes or eBooks that you purchased for the duration of the terms for which you purchased them.

**See Also:**

[Request a Refund](#) on page 38

[Grace Period](#) on page 29

[/webassign.com/support-request](http://webassign.com/support-request)

## Enter Access Codes to Verify Purchase

If an access code card was included with your textbook, or if you purchased an access code card in your bookstore, you can enter it in WebAssign to verify payment for the class.

### access code

A code included with some textbooks that verifies you have already purchased WebAssign access.

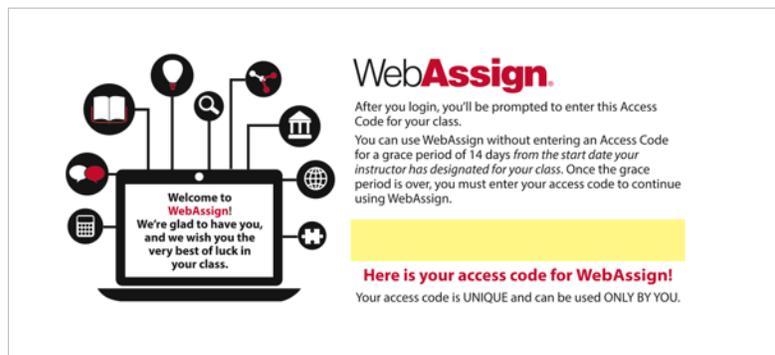
Access code cards can sometimes be purchased at school bookstores.

Usually, an access code is valid only for one term and one class. Occasionally, a textbook includes a multi-term access code. Such a code typically includes either 2S or 3Q in the prefix, indicating two semesters or three quarters, respectively.

**\* Important:** Make sure that your access code card prefix is valid for your class before you open it. Check your access code card prefix or look up the access code card prefix you need before you purchase it at [webassign.net/user\\_support/student/cards.html](http://webassign.net/user_support/student/cards.html).

If your access code was provided on a card (either with your textbook or purchased from your school bookstore), scratch off the silver coating to reveal the access code. Access codes provided on these cards should begin with two or three letters followed by ten additional characters.

Some access codes come in a security envelope and begin with a longer prefix, such as McGraw-2S/3Q, followed by four sets of four characters. If you receive a security envelope access code card, open it to reveal the access code.



## To enter your access code:

1. Log in to WebAssign.
2. If necessary, select your class.

If you need to purchase access, a notice is displayed indicating when your grace period expires and listing your payment options:

- purchase access online
- enter an access code
- continue my trial period

After the end of the grace period, you must either purchase access online or enter an access code.

3. Select **enter an access code**.
4. Select your access code prefix from the **Choose your access code prefix** drop-down list.  
If your prefix is not listed, your access code might not be valid for this class.

 **Note:** Access codes are *not* interchangeable from class to class.

If you believe that you have a valid access code for your class and the prefix is not listed, either notify your instructor or contact WebAssign Customer Support.

5. Enter your access code in the boxes and click **Continue**.

If your access code is valid, a message confirms that you have successfully entered an access code. You will not see the notice about entering an access code again for this class.

**See Also:**

[Grace Period](#) on page 29  
[/webassign.com/support-request](http://webassign.com/support-request)

## Transfer Sections or Drop a Course

If you transfer to a different section or drop the course, ask your instructor to transfer you or drop you from the roster in WebAssign.

As a student, you can't remove yourself from a WebAssign course or transfer to a different section.

### Transferring to a Different Section

If you transfer to a different section of the same course, ask your instructor to transfer you to the new section in WebAssign.

- If the same assignments are scheduled to both sections, your work is transferred to the new section.
- If you already purchased access, your access is transferred to the new section.

### Dropping a Course

If you drop a course, ask your instructor to drop you from the course roster. If you purchased access within the past 14 days, you can request a refund.

**See Also:**

[Request a Refund](#) on page 38

## Request a Refund

If you drop a class, you can request a refund within 14 days of the purchase date.

 **Note:** WebAssign cannot provide refunds for printed textbooks or access code cards purchased from your campus bookstore.

### To request a refund if you drop a class:

1. Go to the WebAssign refund request page.  
Go to [webassign.com/support/student-support/request-a-refund/](http://webassign.com/support/student-support/request-a-refund/).
2. Enter the requested information.  
You will need to provide your full name, WebAssign username, school, email address, instructor and course, and PayPal receipt number.
3. Click **Submit**.

### See Also:

[webassign.com/support/student-support/request-a-refund/](http://webassign.com/support/student-support/request-a-refund/)  
[Transfer Sections or Drop a Course](#) on page 37

# 5

## Assignments

---

### This chapter contains the following topics:

- [List Your Assignments](#)
- [Open an Assignment](#)
- [Submit Your Answers](#)
- [Save Your Work](#)
- [Randomization](#)
- [Print an Assignment](#)
- [Multiple-Part Questions](#)
- [Question Feedback](#)
- [Make Notes About a Question](#)
- [View Your Previous Answers for a Question](#)

Assignments are the work you do for your class in WebAssign, and might include homework assignments, labs, quizzes, or tests, depending on your instructor.

Your instructor creates your assignments, schedules them, and sets guidelines such as:

- How many times you can submit an assignment.
- If you can have extensions of due dates.
- If you can save your work without submitting it.
- The kind of feedback that you receive after you submit an assignment.

 **Note:** The WebAssign Customer Support staff cannot give extensions, change your score, give you extra submissions, or help you with the content of your assignments.

### See Also:

[View Assignment Scoring Details](#) on page 163

[View Calendar](#) on page 200

## List Your Assignments

You can view a summary of your current assignments and due dates on your Home page for a class, or a detailed list of your current and past assignments on your My Assignments page.

 **Important:** Do not wait until the last minute to submit an assignment. Assignment cutoff times are determined by the clock of the WebAssign server, not by the clock on your computer. Every effort is made to ensure that these server clocks are accurate. If the assignment cutoff time is 10:00 P.M., you can not submit the assignment after 10:00 P.M. according to the WebAssign server, regardless of the time displayed on your computer.

1. Click **Home**.  
If necessary, select a class from the **My Classes** menu.
2. Optional: To see more details for your assignments, or list your past assignments, click either **Current Assignments** or **Past Assignments**.

Your Home page for a class lists your current assignments and their due dates in the My Assignments panel.

Your My Assignments page lists your current, past, or all assignments with their due dates. It also includes the following information:

- The assignment category, such as Homework, in parentheses after the assignment name.
- For timed assignments, the amount of time you have to complete the assignment.
- A description of the assignment, if available.
- Your score, if you submitted the assignment and your instructor chose to show you the score.

 **Note:** If a past assignment is not displayed on the list, it is no longer available for review. Contact your instructor to request access to the assignment.

Both views also display icons indicating particular features of the assignment.

Restriction	Description
 <b>Conditional Assignment</b>	If the icon is green, you can open the assignment. If you have not met a prerequisite for starting the assignment, a faded  is displayed and clicking the assignment name will list the prerequisite instead of opening the assignment. Either complete the listed prerequisite or ask your instructor to waive it for you.
 <b>Group Assignment</b>	You and other group members can all work on the assignment; the assignment score is the same for all group members.

Restriction	Description
 <b>Timed</b>	When you open this assignment, you will have a specified amount of time to complete the assignment. The remaining time will be displayed in the top right corner while you are working on the assignment.
 <b>Password Protected</b>	You must enter an assignment password provided by your instructor in order to open this assignment.
 <b>IP Address Restricted</b>	You must log in to WebAssign from locations designated by your instructor in order to open this assignment.
 <b>WebAssign LockDown Browser Required</b>	You must use WebAssign LockDown Browser for this assignment.

## Open an Assignment

You can open an assignment to view it or work on assignment questions from either your Home page or My Assignments page for a class.

 **Note:** Your instructor can make assignments unavailable at any time. You might not be able to open some or all assignments after the due date.

From your Home or My Assignments page for a class, click the name of an assignment.

Acknowledge any notices or enter the assignment password and click **Continue**.

 **Note:** If you have not met a prerequisite for starting the assignment, a faded  is displayed and clicking the assignment name will list the prerequisite instead of opening the assignment. Either complete the listed prerequisite or ask your instructor to waive it for you.

At the top of the assignment, you can see summary information about the assignment, including your score for the entire assignment and for individual questions, the assignment due date and time, and any assignment instructions or access restrictions that have been added by your instructor.

The assignment questions are displayed in order after the summary information. For each question, the available and earned points are listed.

### See Also:

[View Assignment Scoring Details](#) on page 163

## Work on a Group Assignment

Some of your assignments might display the group assignment icon  to indicate that you will complete this assignment in collaboration with other students in your group.

When you are working on group assignments:

- Any member of the group can work on the assignment.
- You will see any responses submitted by other group members.
- You will *not* see notes contributed by other group members.
- All members of the group receive the same score for the assignment, regardless of their individual contributions.

1. From your Home or My Assignments page for a class, click the name of an assignment.

Acknowledge any notices or enter the assignment password and click **Continue**.

 **Note:** If you have not met a prerequisite for starting the assignment, a faded  is displayed and clicking the assignment name will list the prerequisite instead of opening the assignment. Either complete the listed prerequisite or ask your instructor to waive it for you.

2. Collaborate with the group members listed at the top of the assignment.

Current Score : 1 / 7		Due : Thursday, June 30 2011 12:00 AM EDT						
<a href="#">Ask Your Teacher</a>		<a href="#">Extension Requests</a>		<a href="#">Print Assignment</a>				
Question	1	2	3	4	5	6	7	Total
Points	0/1	1/1	0/1	-1	-1	-1	-1	1/7 (14.3%)
<b>Group Members (Blue)</b> Betty Nguyen, Daniel White, Elizabeth Harris, Jason Campbell				<b>Assignment Submission</b> For this assignment, you submit answers by question parts. The number of submissions remaining for each question part only changes if you submit or change the answer.				
				<b>Assignment Scoring</b> Your last submission is used for your score.				

3. Work on the assignment questions and submit your responses.

## Work on an Assignment with LockDown Browser

Some of your assignments might display the LockDown Browser icon  to indicate that you must install and use WebAssign LockDown Browser to complete the assignment.

 **Important:** You can open a LockDown Browser restricted assignment only from WebAssign supported browsers on Windows or Mac OS X. You cannot open LockDown Browser assignments from an iPad or a Linux/UNIX computer.

To check your system for LockDown Browser or to install LockDown Browser, go to [webassign.com/instructors/features/secure-testing/lockdown-browser/](http://webassign.com/instructors/features/secure-testing/lockdown-browser/).

While you are working on an assignment that requires LockDown Browser, you cannot use other applications, view other Web sites, copy, or print. Also, certain WebAssign features are not available when using LockDown Browser. These restrictions help to provide a fair testing environment for all students. The restrictions are lifted when you close the assignment by closing LockDown Browser.

1. From your Home or My Assignments page for a class, click the name of an assignment.

Acknowledge any notices or enter the assignment password and click **Continue**.

 **Note:** If you have not met a prerequisite for starting the assignment, a faded  is displayed and clicking the assignment name will list the prerequisite instead of opening the assignment. Either complete the listed prerequisite or ask your instructor to waive it for you.

2. When the LockDown Browser opens, click the name of your assignment to start it.

 **Note:** If you are using Firefox and cannot open an assignment using LockDown Browser, you must uninstall LockDown Browser and [install the latest version](#) or use another supported browser.

3. Work on the assignment questions and submit your responses.
4. When you are finished with the assignment, close LockDown Browser.

 **Tip:** If the assignment is timed, click the timer to collapse it, and then close LockDown Browser.

### See Also:

[LockDown Browser Is Not Working Properly](#) on page 209

[LockDown Browser System Requirements](#) on page xii

## Work on a Timed Assignment

Some of your assignments might display the timed assignment icon ⌚ to indicate that once you start the assignment, you will have only a limited amount of time to complete it.

### \* Important:

- Only start a timed assignment if you expect to be able to complete the entire assignment without interruption.
- You cannot “pause” a timed assignment after you start it.
- For timed assignments, the time you have to complete the assignment is always the lesser of the allotted time for the assignment and the time remaining until the assignment is due.

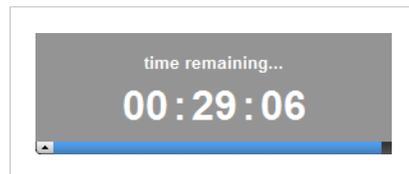
1. From your Home or My Assignments page for a class, click the name of an assignment.

Acknowledge any notices or enter the assignment password and click **Continue**.

 **Note:** If you have not met a prerequisite for starting the assignment, a faded  is displayed and clicking the assignment name will list the prerequisite instead of opening the assignment. Either complete the listed prerequisite or ask your instructor to waive it for you.

2. If needed, click the timer bar at the bottom of the timer to show or hide the timer.

When the assignment opens, the timer is displayed in the top right corner of your browser window.



The timer bar at the bottom of the timer displays a graphical representation of the remaining time relative to the total time allowed for the assignment. Click the bar to collapse or expand the timer.



3. Work on the assignment questions and submit your responses.

If you are working on the assignment when the time remaining for the assignment reaches zero, all of your responses are automatically submitted so you do not lose any points for unsubmitted responses. As with other assignments, if you log out of WebAssign or close your browser, your answers are *not* automatically submitted.

 **Note:** After you start a timed assignment, the due date for the assignment indicates the date and time when the timer expires or the original assignment due date, whichever comes first. This lets you know the last time that you can submit the assignment.

**See Also:**

[Problems Working on iPad With Timed Assignments](#) on page 206

## Submit Your Answers

You must submit your answers to assignment questions to receive credit. How you submit answers depends on the **Assignment Submission** rule displayed at the top of your assignment.

1. Read the **Assignment Submission** and **Assignment Scoring** rules at the top of your assignment.

Current Score : 2 / 13		Due : Thursday, August 25 2011 03:06 PM EDT					
<a href="#">Ask Your Teacher</a>		<a href="#">Extension Requests</a>		<a href="#">Print Assignment</a>			
Question	1	2	3	4	5	6	Total
Points	-1	1/2	1/1	-1	-4	-4	2/13 (15.4%)

**Assignment Submission**  
For this assignment, you submit answers by questions. You are required to use a new randomization after every 2 question submissions.

**Assignment Scoring**  
Your best submission for each question part is used for your score.

2. Click either **Submit Answer** or **Submit Assignment** to submit your work for grading.

 **Important:** See the following topics for details about how to submit your work and how submissions are counted for each **Assignment Submission** rule.

- [Question Parts Submission Rule](#) on page 46
- [Questions Submission Rule](#) on page 48
- [Entire Assignment Submission Rule](#) on page 49

- Your answers are not automatically submitted.
- You can't use the ENTER key to submit answers.
- Depending on how your instructor set up the assignment, you can often submit answers more than once before the assignment due date. This gives you an opportunity to submit different answers to questions that you answered incorrectly the first time.
- Each time you submit answers to WebAssign, you use a submission. After you use all of your allowed submissions, you can't change your answers, even if the assignment due date has not passed.

- Due dates are determined by the clock of the WebAssign server and the time zone of your school, not by the clock on your computer. You can't submit work after the assignment due date, regardless of the time displayed on your computer.



**Tip:** Don't wait until the last minute to submit your answers.

**See Also:**

[View Assignment Scoring Details](#) on page 163

[View Your Previous Answers for a Question](#) on page 62

[Save Your Work](#) on page 49

## Question Parts Submission Rule

If the **Assignment Submission** rule at the top of your assignment reads For this assignment, you submit answers by question parts, the number of submissions for each answer box is counted independently. The number of submissions remaining changes only if you submit a new or changed answer.

For different **Assignment Submission** rules, see either [Questions Submission Rule](#) on page 48 or [Entire Assignment Submission Rule](#) on page 49.

With this rule:

- Each question part can have a different number of allowed submissions.
- Each time you submit your answers, only question parts with new or changed answers are submitted.
- No submissions are used for question parts that you did not change.

To do this	Do this																																							
View your used and allowed submissions for each question part	<p>1. Click the plus sign  in the question heading.</p> <p>The question parts display numbered labels so you can identify them in the question.</p> <div style="border: 1px solid #ccc; padding: 10px;"> <div style="border-bottom: 1px solid #ccc; padding-bottom: 5px;"> <span style="font-weight: bold;">9.</span> <span style="color: green;">3.4/7 points</span>   <a href="#">Previous Answers</a> <span style="float: right;">My Notes</span> </div> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Question Part</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Points</td> <td>0/1 <span style="color: red;">✗</span></td> <td>0.2/1 <span style="color: green;">✓</span></td> <td>1/1 <span style="color: green;">✓</span></td> <td>0.2/1 <span style="color: red;">✗</span></td> <td>1/1 <span style="color: green;">✓</span></td> <td>1/1 <span style="color: green;">✓</span></td> <td>-1</td> <td>3.4/7</td> </tr> <tr> <td>Submissions Used</td> <td>2/2</td> <td>2/2</td> <td>1/2</td> <td>2/2</td> <td>1/2</td> <td>1/2</td> <td>0/2</td> <td></td> </tr> </tbody> </table> <p>What is the formula for calculating density?</p> <p> <input type="radio"/> <math>\rho = m \times V</math>                   <input checked="" type="radio"/> <math>\rho = \frac{V}{m}</math>                   <input type="radio"/> <math>\rho = m^V</math>                   <input type="radio"/> <math>\rho = \frac{m}{V}</math>   <span style="color: red; font-weight: bold;">✗</span> </p> <p>For both of the samples at your lab station, measure the volume and mass. Then, calculate the density. Specify units for all values.</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Sample</th> <th>Mass</th> <th>Volume</th> <th>Density</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>2 53 kg <span style="color: red;">✗</span> <span style="color: red; font-weight: bold;">Check your measurements.</span></td> <td>3 40 ml <span style="color: green;">✓</span></td> <td>4 1.33 kg/ml <span style="color: gray;">⚠</span></td> </tr> <tr> <td>B</td> <td>5 206 g <span style="color: green;">✓</span></td> <td>6 3.2 ml <span style="color: green;">✓</span></td> <td>7</td> </tr> </tbody> </table> </div>	Question Part	1	2	3	4	5	6	7	Total	Points	0/1 <span style="color: red;">✗</span>	0.2/1 <span style="color: green;">✓</span>	1/1 <span style="color: green;">✓</span>	0.2/1 <span style="color: red;">✗</span>	1/1 <span style="color: green;">✓</span>	1/1 <span style="color: green;">✓</span>	-1	3.4/7	Submissions Used	2/2	2/2	1/2	2/2	1/2	1/2	0/2		Sample	Mass	Volume	Density	A	2 53 kg <span style="color: red;">✗</span> <span style="color: red; font-weight: bold;">Check your measurements.</span>	3 40 ml <span style="color: green;">✓</span>	4 1.33 kg/ml <span style="color: gray;">⚠</span>	B	5 206 g <span style="color: green;">✓</span>	6 3.2 ml <span style="color: green;">✓</span>	7
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Submit the entire assignment	<ol style="list-style-type: none"> <li>Enter your answers for all questions on the assignment.</li> <li>At the bottom of the assignment, click <b>Submit Assignment</b>.</li> </ol>																																							

 **Note:** Click in a question to see the **Submit Answer** or **Submit Assignment** button.

## Questions Submission Rule

If the **Assignment Submission** rule at the top of your assignment reads For this assignment, you submit answers by questions, the number of submissions for each question is counted independently. The number of submissions remaining changes only if you submit a new or changed answer.

For different **Assignment Submission** rules, see either [Question Parts Submission Rule](#) on page 46 or [Entire Assignment Submission Rule](#) on page 49.

With this rule:

- Each question can have a different number of allowed submissions.
- Each time you submit your answers, only questions with new or changed answers are submitted. However, the entire question is submitted, including unanswered question parts and question parts for which you did not change your answer.
- No submissions are used for questions that you did not change.

To do this	Do this
<b>View your used and allowed submissions for each question</b>	<ol style="list-style-type: none"> <li>1. View the submission information in the question heading.</li> </ol>  <p>Submissions are always displayed as <i>used_submissions/total_allowed_submissions</i>.</p>
<b>Submit one question at a time</b>	<ol style="list-style-type: none"> <li>1. Enter your answers for the question.</li> <li>2. At the bottom of the question, click <b>Submit Answer</b>.</li> </ol>
<b>Submit multiple changed questions</b>	<ol style="list-style-type: none"> <li>1. Enter your answers for more than one question.</li> <li>2. At the bottom of a question, click <b>Submit Assignment</b>.</li> </ol> <p> <b>Note:</b> The <b>Submit Answer</b> button changes to <b>Submit Assignment</b> if other questions have changes that have not been submitted or saved.</p>
<b>Submit the entire assignment</b>	<ol style="list-style-type: none"> <li>1. Enter your answers for all questions on the assignment.</li> <li>2. At the bottom of the assignment, click <b>Submit Assignment</b>.</li> </ol>

 **Note:** Click in a question to see the **Submit Answer** or **Submit Assignment** button.

## Entire Assignment Submission Rule

If the **Assignment Submission** rule at the top of your assignment reads For this assignment, you submit the entire assignment, you must submit all answers for the entire assignment at once.

For different **Assignment Submission** rules, see either [Question Parts Submission Rule](#) on page 46 or [Questions Submission Rule](#) on page 48.

With this rule:

- The number of allowed submissions is set for the assignment as a whole.
- Each time you submit your answers, *all* of your answers for the assignment are submitted. This includes unanswered questions and questions for which you did not change your answer.

To do this	Do this																
<p><b>View your used and allowed submissions for the assignment</b></p>	<p>1. View the submission information in the assignment heading.</p> <div style="border: 1px solid #ccc; padding: 10px; margin: 10px 0;"> <p><a href="#">PHY 101, section 2, Fall 2010</a> » <a href="#">My Assignments</a></p> <p><b>PHY 101 - Chapter 2 Quiz (Quiz)</b></p> <p><b>Current Score : 1 / 16</b>      <b>Due : Thursday, November 25, 2010 05:00 PM EST</b></p> <p><a href="#">Ask Your Teacher</a>   <a href="#">Extension Requests</a>   <a href="#">Print Assignment</a></p> <p>1/3 submissions</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Question</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Points</td> <td>0/2</td> <td>1/2</td> <td>0/6</td> <td>0/2</td> <td>0/2</td> <td>0/2</td> <td>1/16 (6.3%)</td> </tr> </tbody> </table> </div> <p>Submissions are always displayed as <i>used_submissions/total_allowed_submissions</i>.</p>	Question	1	2	3	4	5	6	Total	Points	0/2	1/2	0/6	0/2	0/2	0/2	1/16 (6.3%)
Question	1	2	3	4	5	6	Total										
Points	0/2	1/2	0/6	0/2	0/2	0/2	1/16 (6.3%)										
<p><b>Submit the entire assignment</b></p>	<p>1. Enter your answers for all questions on the assignment.</p> <p>2. At the bottom of the assignment, click <b>Submit Assignment</b>.</p>																

## Save Your Work

If enabled by your instructor, you can save your progress on an assignment without submitting your answers. You can then view your saved work later when you are working on the assignment again. You might want to save an answer that you expect to revise later. You might also want to save your progress as you work on an assignment that allows only one submission.

**\* Important:** Your saved work is not scored by WebAssign and can't be viewed by your instructor. To receive credit, submit your answers before the assignment due date.

To do this	Do this
<b>Save your work for one question</b>	At the bottom of the question, click <b>Save Progress</b> . Your unsubmitted work for the question is saved.
<b>Save all of your work for the assignment</b>	At the bottom of a question or the assignment, click <b>Save Assignment Progress</b> . All of your unsubmitted work for the assignment is saved.
<b>Discard your saved work for a question</b>	Click <b>Revert to Last Response</b> at the bottom of the question. Your last submitted answer is shown for the question instead of the answer you saved.

 **Note:** Depending on the assignment submission rule, you might not be able to save partial work for the assignment. Click in a question to see the **Save Progress** or **Save Assignment Progress** button.

Questions with saved work display a yellow border on the left and bottom with the message [Viewing Saved Work](#).

- Saving work does not use any submissions.
- Marks and scores displayed with a question apply to the submitted answers for that question only, not to your saved work.
- You can't view previous versions of your saved work.

## Example

1. + -/1 points My Notes | AufBCM9 5.2.002.

86% of 50 is what?

43

*Viewing Saved Work Revert to Last Response*

---

2. + -/1 points My Notes | AufBCM9 5.2.004.

58% of 95 is what?

55.1

---

3. + -/1 points My Notes | AufBCM9 5.2.006.

0.015% of 525 is what?

0.07875

Enter a number.

⚠ Your work in question(s) 2 will also be submitted or saved.

Submit Assignment Save Assignment Progress

---

4. + -/1 points My Notes | AufBCM9 5.2.008.

710% of 14 is what?

Submit Assignment Save Assignment Progress

- Question 1 has a saved answer.
- Question 2 has an answer that has not been submitted or saved.
- Question 3 has an answer that has not been submitted or saved. Because the student is working on the question, it displays the **Submit Assignment** and **Save Assignment Progress** buttons.
- Question 4 has no answer yet.

### See Also:

[Submit Your Answers](#) on page 45

[View Your Previous Answers for a Question](#) on page 62

## Randomization

Most questions in WebAssign use randomized values, and these values are usually displayed in red. Randomizing question values helps give every student a fair

opportunity to succeed on coursework, and it allows for practicing alternative versions of the question if enabled.

$$y = x^2 - 11x + 28$$

What is a root of this equation?

Enter a number.

The numbers 11 and 28 in this question are randomized.

Depending on the assignment, randomized values are different for each class or for each student. In addition, some assignments require you to request a new randomization after a specified number of submissions.

## Assignments Requiring New Randomizations

The **Assignment Submission** rule at the top of the assignment indicates if your instructor enabled new randomizations for your assignment and how many submissions you must use before requesting a new randomization.

Current Score : 2 / 13    Due : Thursday, August 25 2011 03:06 PM EDT

[Ask Your Teacher](#)   [Extension Requests](#)   [Print Assignment](#)

Question	1	2	3	4	5	6	Total
Points	-1	1/2	1/1	-1	-4	-4	2/13 (15.4%)

**Assignment Submission**

For this assignment, you submit answers by questions. You are required to use a new randomization after every 2 question submissions.

**Assignment Scoring**

Your best submission for each question part is used for your score.

This feature lets you try a different version of the question if you can't answer correctly before a new randomization is required. If enabled by your instructor, you might be shown the answer key or worked solution for a problem after you have used all your submissions for a particular randomization.

How new randomizations work depends on the **Assignment Submission** rule for the assignment.

Assignment Submission Rule	New Randomization Behaviors
For this assignment, you submit answers by question parts	New randomization is not available.

Assignment Submission Rule	New Randomization Behaviors
For this assignment, you submit answers by questions	<p>After every <math>n</math> submissions for a question, a <b>New Randomization</b> button is displayed at the end of the question and you can't make any more submissions for the question.</p> <ol style="list-style-type: none"> <li>1. If the answer key or solution are shown, try to use those to understand how to solve the problem.</li> <li>2. When you are ready, click <b>New Randomization</b> to try answering a differently randomized version of the question.</li> </ol>
For this assignment, you submit the entire assignment	<p>After every <math>n</math> submissions for an assignment, a <b>New Randomization</b> button is displayed at the end of the assignment and you can't make any more submissions for the assignment.</p> <ol style="list-style-type: none"> <li>1. If the answer keys or solutions are shown, try to use those to understand how to solve the assignment problems you had trouble with.</li> <li>2. When you are ready, click <b>New Randomization</b> to try answering a differently randomized version of the entire assignment.</li> </ol>

- The number of attempts you can make between requesting a new randomization is set by your instructor and displayed in the **Assignment Submission** rule.
- You can't request a new randomization before making the specified number of attempts.
- You can't request a new randomization if you have used all your submissions for the question or assignment.
- Questions that don't have randomized values won't change after requesting a new randomization.
- You don't have to click **New Randomization** if you are satisfied with your current score for the question or assignment.
- Using new randomizations doesn't change the overall number of submissions allowed for the question or assignment.

**\* Important:** Especially after requesting a new randomization for the assignment, check your answers before submitting to make sure they are based on the current randomized values.

### Example

On question 1, you are allowed 5 submissions, and the **Assignment Submission** rule for your assignment is:

For this assignment, you submit answers by questions. You are required to use a new randomization after every 2 question submissions.

1. You submit an incorrect answer to question 1.

2. After you submit a second answer, the **New Randomization** button is shown for question 1.
3. Because your second answer is still not correct, you click **New Randomization** to try question 1 with different values.
4. You attempt to answer question 1 with the new values (3rd submission).
5. After your next attempt to answer question 1 (4th submission), the **New Randomization** button is shown again.
6. Clicking **New Randomization** gives you one more chance (your 5th submission) to answer the question with yet another set of values.

**See Also:**

[Practice Another Version](#) on page 173

## Print an Assignment

You can print an assignment by clicking **Print Assignment** at the top of the Assignment page. Using **Print Assignment** formats the assignment to remove buttons and line breaks, and often prints using less paper than just using Print on your Web browser.

### To print an assignment:

1. From your Home or My Assignments page for a class, click the name of an assignment.

Acknowledge any notices or enter the assignment password and click **Continue**.

 **Note:** If you have not met a prerequisite for starting the assignment, a faded  is displayed and clicking the assignment name will list the prerequisite instead of opening the assignment. Either complete the listed prerequisite or ask your instructor to waive it for you.

2. Click  **Print Assignment**.

Your browser's print function is displayed.

Your printed assignment displays summary information about the assignment, including your name, the instructor name, the class name, class section, class term, assignment category, assignment name, and the time and date the assignment was printed.

 **Note:** Assignments that include large tables, large graphics, or complex layouts wider than the Print Assignment output format might not print as expected. Line breaks might be displayed oddly or text or graphics might be truncated. Changing printer format from Portrait to Landscape might help in some cases.

WebAssign  
Data Analysis II (Homework) Dr. Michael Lopez  
data analysis, Spring 2010  
Instructor: Dr. Michael Lopez

Current Score : 0 / 0 Due : Wednesday, June 30, 2010 09:53 AM EDT

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1. --/3 points

This example asks to input two values and then the third box answer key is a condition based on the first two answer boxes.

Enter the this value, 2:

Enter this value, 4:

If the first value is greater than the second value, enter the first value for your answer. If it is less than the second value, enter the second value.

You must complete other answer boxes first for this answer box to be available.

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2. --/2 points

To get a caution symbol in answer 2, enter 8 for part 1 and then 28 for part 2.

$a = 4$  and  $b = 6$ . What is  $a + b$ ?

What is  $2(a+b)$ ?

You must complete other answer boxes first for this answer box to be available.

---

3. --/3 points

Enter 1.

Enter 3.

What is  $1+2$ ? (enter 4)

You must complete other answer boxes first for this answer box to be available.

## Multiple-Part Questions

Many questions have more than one part. Each part of a multiple-part question can be a different type of question — for example, fill-in-the-blank, multiple-choice, or mathPad.

Be sure to answer every part of a multiple-part question to receive full credit.

**Choose the correct answer choice from the options given. The paragraph relates to Chinese computer network exploitation and attacks directed towards critical infrastructure.**

--- actors use these probes to gain information for more deliberate ---. In ---, --- reported --- penetration of the U.S. electric grid and other critical infrastructure nodes. Citing --- officials involved in the investigation, the *Wall Street Journal* report identified China as a primary --- in the intrusions. In ---, the *National Journal* reported that Chinese cyber attacks may have been responsible for blackouts in 2003 and 2007 in --- and ---, respectively.

### See Also:

[Answer Scored Tutorial Questions on page 55](#)

[Answer Unscored Tutorial Questions on page 57](#)

## Answer Scored Tutorial Questions

Tutorial questions have multiple parts that are completed sequentially to help you work through learning a concept. **Scored tutorial questions** are displayed in your assignment and count toward your assignment score.

### To answer a scored tutorial question:

1. Try to answer the first part of the question.

**Reasoning Problem**

Although Evel Knievel never succeeded in jumping over the Grand Canyon, he was famous for jumping (with the help of his motorcycle) over, among other things, 14 large trucks. This jump covered an approximate distance 134 ft. What was Mr. Knievel's minimum initial velocity for this jump in meters per second? Ignore air drag.

**Part 1 of 4 - Recognize the Principles**

Which of the following are critical to solving this problem?

- constant acceleration
- projectile motion
- $a = g = 9.8 \text{ m/s}^2$
- Newton's 2nd law
- independence of  $x$  and  $y$  vector components

[Submit](#) [Skip](#)

- If you think you know the answer, enter it and click **Submit**.

Your answer is scored. If your answer is incorrect, you can continue to submit new answers until you either answer the question correctly or run out of submissions. The maximum number of submissions is set by your instructor.

- If you cannot answer the question, click **Skip**.

After you answer the part correctly, use all of your submissions, or skip the part:

- The answer key is shown for that part of the tutorial.
- The next part of the tutorial is shown.

2. Try to answer the next part of the tutorial in the same way.

Continue to answer each tutorial part until you reach the end of the tutorial question.

 **Important:** You do not receive any credit for parts that you skip.

**See Also:**

[Submit Your Answers](#) on page 45

[Multiple-Part Questions](#) on page 55

[Answer Unscored Tutorial Questions](#) on page 57

## Answer Unscored Tutorial Questions

Tutorial questions have multiple parts that are completed sequentially to help you work through learning a concept. **Unscored tutorial questions** are displayed in a separate window and do not count toward your assignment score.

### To answer an unscored tutorial question:

1. In your assignment, click the tutorial button to open the tutorial in a new window.

The label and appearance of the tutorial button can vary.

2. Try to answer the first part of the question.

Reasoning Problem

Although Evel Knievel never succeeded in jumping over the Grand Canyon, he was famous for jumping (with the help of his motorcycle) over, among other things, 14 large trucks. This jump covered an approximate distance 134 ft. What was Mr. Knievel's minimum initial velocity for this jump in meters per second? Ignore air drag.

Part 1 of 4 - Recognize the Principles

Which of the following are critical to solving this problem?

- constant acceleration
- projectile motion
- $a = g = 9.8 \text{ m/s}^2$
- Newton's 2nd law
- independence of  $x$  and  $y$  vector components

- If you think you know the answer, enter it and click **Submit**.

Your answer is scored. If your answer is incorrect, you can continue to submit new answers until you either answer the question correctly or run out of submissions. The maximum number of submissions is set by your instructor.

- If you cannot answer the question, click **Skip**.

After you answer the part correctly, use all of your submissions, or skip the part:

- The answer key is shown for that part of the tutorial.
- The next part of the tutorial is shown.

3. Try to answer the next part of the tutorial in the same way.

Continue to answer each tutorial part until you reach the end of the tutorial question.

 **Note:** Because unscored tutorials do not count toward your assignment score, you do not lose credit for parts that you skip.

### See Also:

Submit Your Answers on page 45  
 Multiple-Part Questions on page 55  
 Answer Scored Tutorial Questions on page 55

## Question Feedback

After you submit a question, question part, or assignment, you usually receive feedback on your answers. This feedback might be a mark indicating whether or not you answered a question correctly, or it might include information to help you understand the problem. After the due date, you might see the answer key or a worked solution to the problem. Use this feedback as an opportunity to learn, and if you have more time and submissions, to change your answers on questions that you missed.

 **Important:** What feedback you see depends on both the question itself and on the options that your instructor set for the assignment. Tell your instructor if you want to see more feedback on future assignments.

 **Note:** If your assignment uses Question Parts submission, and if you answer a question part correctly using fewer than the maximum number of submissions allowed, the solution is not displayed.

## Marks

If shown, marks indicate whether the most recent answer you submitted was correct or incorrect.

 **Note:** Marks are never shown for short-answer, essay, file-upload, and pencilPad question parts, or for Show My Work, since these are graded by your instructor. However, you can see any comments that your instructor made about your answers. See [View Assignment Scoring Details](#) on page 163.

Mark	Meaning
	The submitted answer is correct.
	The submitted answer is not correct.
	The submitted answer is partially correct. Often, this means one of two things: <ul style="list-style-type: none"> <li>• The answer is numerically correct, but is specified with an incorrect number of significant digits or decimal places.</li> <li>• The answer uses valid units, but is numerically incorrect.</li> </ul>
	The submitted answer is incorrect because it is based on incorrect values, but the calculation is valid.
	The submitted answer is not correct, but credit was awarded for a previous submission.

Mark	Meaning
	The submitted answer might be correct or incorrect; more feedback is available when you click the mark.
	The last submitted answer was correct, but the answer has been changed and has not been resubmitted.
	The last submitted answer was not correct, but the answer has been changed and has not been resubmitted.

 **Note:** Some icons have different meanings when they are shown below a question or question part score.

When you change your answer for a question part, its mark changes to gray until you submit a new answer. This indicates that the mark relates only to your last submitted answer and not to your changed answer.

#### See Also:

[Question Score](#) on page 164

[Question Part Score](#) on page 165

## Feedback and Hints

If the mark displays a feedback bubble , you can click the mark to see feedback designed to help your understanding of the material.

If the speed of every atom in a monatomic ideal gas were doubled, the Kelvin temperature of the gas would be multiplied by a factor of \_\_\_\_\_.

$\frac{1}{2}$   
 2  
 1  
  $\frac{1}{4}$   
 4



Incorrect. Refer to  $KE_{avg} = \frac{1}{2}mv_{rms}^2 = \frac{3}{2}kT$  to see how the kinetic theory of gases predicts that the Kelvin temperature is related to atomic speed.

Feedback might be shown in other ways, as well. Some questions display hints after a specific number of submissions, or if your answer demonstrates a partial understanding of the question. The chemPad tool displays feedback for the chemical expression that you entered.

## Worked Solutions

Some questions provide a worked solution that shows how the correct answer is obtained. Depending on how your instructor set up the assignment, the solution might be shown only after the assignment due date is passed, or after you have

used all of your submissions. The solution cannot display without the answer key, nor can it display before the answer key, whether or not the answer has been submitted multiple times.

Solve for  $x$ :  
 $2x^2 - 3x = 9$   
 $x =$   ✓

**Solution or Explanation**

1. Subtract 9 from both sides of the equation.  
$$2x^2 - 3x - 9 = 0$$
2. Factor the expression.  
$$(x - 3)(2x + 3) = 0$$
3. Solve for each factor = 0.  
$$x - 3 = 0 \quad 2x + 3 = 0$$

## Answer Keys

Depending on how your instructor set up the assignment, you might be able to see answer keys indicated with the key icon  in the assignment. The answer key indicates a correct answer provided by the question, but might not be the only acceptable answer.

There are three times when the answer key might be displayed:

1. In tutorial questions, if you skip a step, the answer key is displayed for that step before the due date. This allows you to continue with the tutorial.
2. If allowed by your instructor, answer keys might be displayed automatically before the due date, usually after a specified number of submissions.
3. If allowed by your instructor, the  **View Key** button might be displayed after the assignment due date has passed. Click this button to see the answer keys for all questions on the assignment.

 **Note:** If you view the answer key, your instructor will probably not grant you an extension for the assignment. Only your instructor can grant an extension.

## Make Notes About a Question

You can add a note to yourself in any question. Your note can be about anything; for example, you might remind yourself to use a specific formula.



### Note:

- Anything you enter on your assignments, including notes, can be read by your instructor.
- Unless requested by your instructor, do not use notes to communicate with your instructor; instructors are not alerted when you add notes to questions, and there is no way for your instructor to reply to your note.
- You cannot add notes on assignments that use LockDown Browser.

### To make a note about a question:

1. Click the **Notes** icon  in the question heading.  
The My Notes window opens.
2. Type your note in the **Notes** field, and click **Save**.  
The note is saved.
3. Click **Close this window** to close the My Notes window.

### View Your Notes About a Question

If you have previously saved a note for a question, the notes icon changes to a representation of a notebook.

### To view a note about a question:

1. Click the **Notes** icon  in the question heading.  
The My Notes window opens and displays the saved note.
2. Click **Close this window** to close the My Notes window.

### Edit Your Notes About a Question

You can edit the notes you have already saved.

### To edit a saved note about a question:

1. Click the **Notes** icon  in the question heading.  
The My Notes window opens and displays the saved note.
2. Click **Edit**.
3. Edit your note in the **Notes** field, and click **Save**.  
The note is saved.

4. Click **Close this window** to close the My Notes window.

## View Your Previous Answers for a Question

If viewing your previous answers is enabled for an assignment, you can see your previous answers to a question.

You can't change your previous answers.

1. From your Home or My Assignments page for a class, click the name of an assignment.

Acknowledge any notices or enter the assignment password and click **Continue**.

 **Note:** If you have not met a prerequisite for starting the assignment, a faded  is displayed and clicking the assignment name will list the prerequisite instead of opening the assignment. Either complete the listed prerequisite or ask your instructor to waive it for you.

2. When viewing your assignment, click **Previous Answers** in a question heading to see each answer you submitted for the question.

**Previous Answers** is not shown if you have no previous answers for the question or if your instructor turned off viewing previous answers for the assignment.

The Previous Answers page opens in a new window.

Previous Answers for Mary Allen 

Trigonometry Review, Question 1 , CJ7 1.P.012.

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**Submission 1** (0/1 points)

The gondola ski lift at Keystone, Colorado, is 2620 m long. On average, the ski lift rises 14.6° above the horizontal. How high is the top of the ski lift relative to the base?

 m

**Section 1.4 Trigonometry**

---

**Submission 2** (0/1 points)

The gondola ski lift at Keystone, Colorado, is 2620 m long. On average, the ski lift rises 14.6° above the horizontal. How high is the top of the ski lift relative to the base?

   m

**Section 1.4 Trigonometry**

---

New Randomization

---

**Submission 3** (1/1 points)

The gondola ski lift at Keystone, Colorado, is 2560 m long. On average, the ski lift rises 13.1° above the horizontal. How high is the top of the ski lift relative to the base?

 m

**Section 1.4 Trigonometry**

The assignment name and question number are displayed at the top of the page.

Item	Description
<b>Submission Header</b>	<p>Each submission for the question displays a header with the sequence number of the submission and the points earned. The first submission is displayed at the top and the most recent submission at the bottom.</p> <div style="border: 1px solid #ccc; background-color: #fff9c4; padding: 5px; margin-top: 10px;"> <p> <b>Note:</b> For assignments with question part submission:</p> <ul style="list-style-type: none"> <li>The time when the submission was made is displayed</li> <li>The number of submissions made might look like more than the allowed number of submissions. This is because each time you submitted new answers, submissions were used only for the changed question parts.</li> </ul> </div>
<b>Answers</b>	<p>The answers submitted for each question part are displayed for each submission. If an answer box was empty when the question was submitted, it displays <i>(No Response)</i>.</p>

Item	Description
<b>Marks</b>	<p>If enabled by your instructor, marks are displayed for each answer box to indicate whether or not the answer was correct.</p> <p> <b>Note:</b> Marks on the Previous Answers page do not indicate whether more credit was earned for a previous response.</p>
<b>Question Feedback</b>	If available, question feedback is displayed for each submission.
<b>Answer Keys</b>	Answer keys are displayed only for those submissions after which the answer key was displayed on the assignment.
<b>New Randomization</b>	If shown, the <b>New Randomization</b> banner indicates that the question values changed after you clicked <b>New Randomization</b> in the assignment.

The date when each answer was submitted is displayed only for assignments with question part submission.

The following items are *not* displayed in the Previous Answers page. You can view these items (if available) in the assignment.

- Links to “pop-up” questions that do not count toward your score. This includes tutorial and practice questions and Practice Another Version.
- Links to eBooks or other learning resources.
- Detailed score information for each question part.
- Assignment scoring and submission rules.
- Worked solutions.

**See Also:**

[Submit Your Answers](#) on page 45

[Scores and Grades](#) on page 161

[Question Feedback](#) on page 58

[Save Your Work](#) on page 49

[Submit Your Answers](#) on page 45

# 6

## Questions

### This chapter contains the following topics:

- Answer calcPad Questions
- Answer chemPad Questions
- Answer Essay Questions
- Upload Files for Questions
- Answer Fill-In-The-Blank Questions
- Answering Graphing Questions
- Answer Identification Questions
- Answer JME Questions
- Answer MarvinSketch Questions
- Answer Matching Questions
- Answer Math Questions with Calculator Notation
- Answer mathPad Questions
- Answering Matrix Questions
- Answer Multiple-Choice Questions
- Answer Multiple-Select Questions
- Answer NumberLine Questions
- Answer Numerical Questions
- Answer pencilPad Questions
- Answer physPad Questions
- Answer Poll Questions
- Show My Work

Working on an assignment consists of answering questions on the assignment and then submitting your answers to WebAssign. Depending on the question, you might type your answer in a text box, select a multiple-choice answer, graph a function, enter chemistry notation, or use a number of other tools to specify your answer. The question might have one part or many parts.

### Question Type

### Example

Use the calcPad<sup>®</sup> tool to enter a correctly formatted mathematical expression.

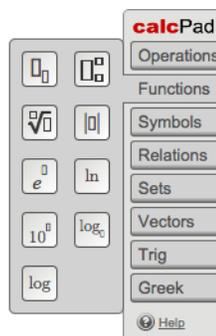
Similar question types:

- calcPad<sup>®</sup> Questions
- mathPad Questions
- mathCalculator Questions
- mathPad Questions
- numerical Questions
- physPad<sup>®</sup> Questions

Solve the differential equation.

$$\frac{dz}{dt} + 4e^t + z = 0$$

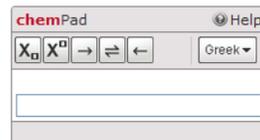
$$z = -\ln(7e^t)$$

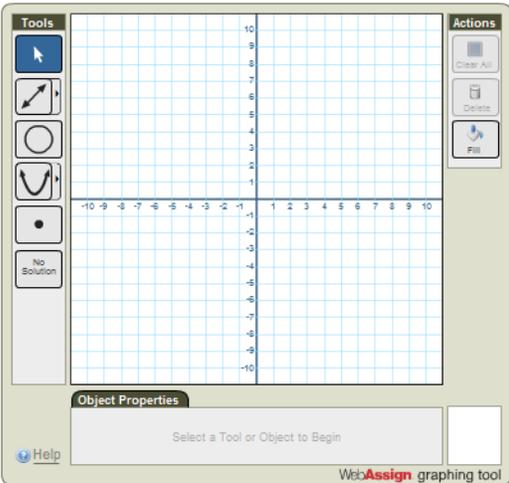


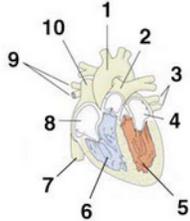
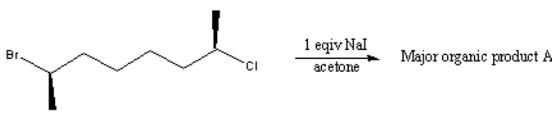
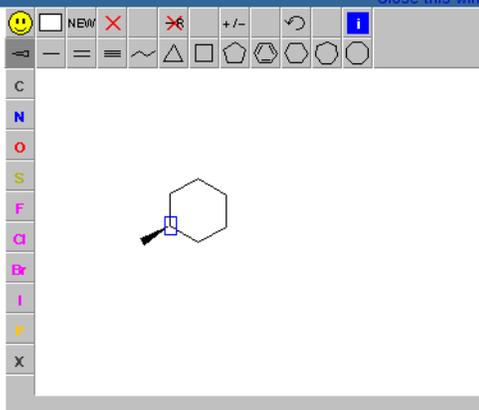
### chemPad

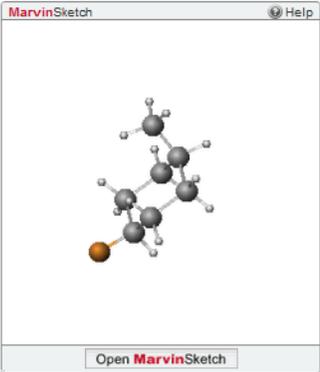
Use chemPad to enter chemical formulas and equations that are automatically displayed in correct chemical notation.

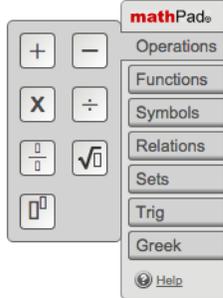
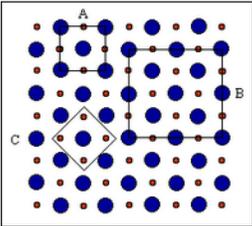
Write the chemical equation for the basic dissociation of ammonia in aqueous solution. (Use the lowest possible coefficients. Omit states-of-matter in your answer.)

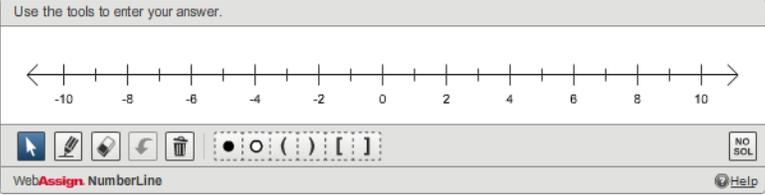


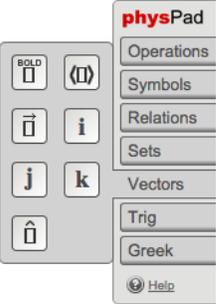
Question Type	Example
<p><b>Essay</b></p> <p>Type an extended textual answer to the question in the box provided.</p>	<p>Compare the skeletons of the elephant, giraffe, gorilla, and whale regarding:</p> <ol style="list-style-type: none"> <li>1) the vertebral column</li> <li>2) the pelvic girdle</li> <li>3) bones of the forelimb</li> </ol> <div style="border: 1px solid gray; height: 50px; width: 100%;"></div>
<p><b>File Upload</b></p> <p>Electronically submit a file containing your work, for example, an Excel spreadsheet or a research paper.</p>	<p>Please upload your Excel file. <input type="button" value="Choose File"/> No file chosen</p>
<p><b>Fill-in-the-blank</b></p> <p>Type a word or short answer into the answer box provided.</p> <p>Similar question types:</p> <ul style="list-style-type: none"> <li>• calcPad<sup>®</sup></li> <li>• fill-in-the-blank</li> <li>• math (calculator notation)</li> <li>• mathPad</li> <li>• numerical</li> <li>• physPad<sup>®</sup></li> </ul>	<p>Using the periodic table in your textbook or the <a href="#">periodic table</a> found on the web, answer the following questions.</p> <p>What is the element with atomic number 8?</p> <input style="width: 50px;" type="text"/> <p>What is the element with atomic number 17?</p> <input style="width: 50px;" type="text"/> <p style="background-color: #cccccc; padding: 2px;">Answer is case sensitive.</p>
<p><b>Graphing</b></p> <p>Plot figures on a Cartesian coordinate plane.</p>	<p>Plot the line <math>y = x + 2</math>.</p> 

Question Type	Example
<p><b>Identification</b></p> <p>Click on the place in the image that answers the question.</p>	<p>Click the pulmonary artery.</p> 
<p><b>JME</b></p> <p>Use the Java Molecular Editor (JME) tool to draw chemical structures for your response.</p>	<p>a) Open the editor below and draw the skeletal structure of the major organic product for the following reaction.</p> <p><a href="#">? Organic Formatting Help</a></p>  <p>A <input type="text"/></p> <p><input type="button" value="Open JME Editor"/></p> <p><input type="button" value="Restore Saved Drawing"/></p> <div> <p style="text-align: right;">Close this window</p>  </div> <p><a href="#">Help</a>   <a href="#">Credits</a></p> <p><input type="button" value="Save Drawing"/> <input type="button" value="Close Without Saving"/></p>

Question Type	Example
<p><b>MarvinSketch</b></p> <p>Draw chemical structures for your response. MarvinSketch supports drawing and grading of Lewis structures, reactions, and mechanisms.</p>	<p>Open the editor and manipulate the structure in 3D (press "F7" once the editor opens), then answer the following questions. One of the substituents is a methyl group and the other is a <b>fluorine</b>.</p>  <p>(a) Write the name using the IUPAC substitutive nomenclature convention.  <input type="text"/></p> <p>(b) Is this the most stable conformation?  <input type="radio"/> Yes  <input type="radio"/> No</p>
<p><b>Matching</b></p> <p>Match items in one column to corresponding items in a second column.</p>	<p>Match the following Electron Configurations with the element that it represents:</p> <p><input type="checkbox"/> Chlorine 1. <math>[\text{Ar}].3d^5.4s^1</math></p> <p><input type="checkbox"/> Vanadium 2. <math>[\text{Ar}].3d^4.4s^2</math></p> <p><input type="checkbox"/> Chromium 3. <math>[\text{Ar}].3d^3.4s^2</math></p> <p><input type="checkbox"/> Oxygen 4. <math>[\text{He}].2s^2.2p^4</math></p> <p>5. <math>[\text{Ne}].3s^2.3p^5</math></p>
<p><b>Math (Calculator Notation)</b></p> <p>Type an answer using calculator notation.</p> <p>Similar question types:</p> <ul style="list-style-type: none"> <li>• <a href="#">calcPad®</a></li> <li>• <a href="#">fill-in-the-blank</a></li> <li>• <a href="#">math (calculator notation)</a></li> <li>• <a href="#">mathPad</a></li> <li>• <a href="#">numerical</a></li> <li>• <a href="#">physPad®</a></li> </ul>	<p>Suppose a calculator manufacturer has the total cost function <math>C(x) = 17x + 3400</math> and the total revenue function <math>R(x) = 34x</math>. A. What is the equation of the profit function for the calculator?</p> <p><input type="text"/></p> <p>Enter a mathematical expression.</p> <p>B. What is the profit on 300 units?</p> <p><input type="text"/></p> <p><a href="#">symbolic formatting help</a></p>

Question Type	Example												
<p><b>mathPad</b></p> <p>Use the mathPad tool to enter a correctly formatted mathematical expression</p> <p>Similar question types:</p> <ul style="list-style-type: none"> <li>• calcPad®</li> <li>• fill-in-the-blank</li> <li>• math (calculator notation)</li> <li>• mathPad</li> <li>• numerical</li> <li>• physPad®</li> </ul>	<p>What is the formula for the distance <math>d</math> between the two points <math>(x_1, y_1)</math> and <math>(x_2, y_2)</math>?</p> $d = \sqrt{(x_1 - x_2)^2 + (\quad)^2}$ 												
<p><b>Matrix</b></p> <p>Click the green arrows to expand or collapse the answer field and type your answers in the blanks.</p> <p>See</p>	<p>Compute the following:</p> $M = \begin{pmatrix} 2 & 0 & 0 & 0 \\ 0 & 2 & 0 & 0 \\ 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 2 \end{pmatrix} \begin{pmatrix} 2 & 0 & 0 & 1 \\ 0 & 2 & 1 & 0 \\ 0 & 1 & 2 & 0 \\ 1 & 0 & 0 & 2 \end{pmatrix}$ <p>Answer:</p> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> <table border="1" style="border-collapse: collapse;"> <tr><td style="width: 40px; height: 20px;"></td><td style="width: 40px; height: 20px;"></td><td style="width: 40px; height: 20px;"></td><td style="width: 40px; height: 20px;"></td></tr> <tr><td style="width: 40px; height: 20px;"></td><td style="width: 40px; height: 20px;"></td><td style="width: 40px; height: 20px;"></td><td style="width: 40px; height: 20px;"></td></tr> <tr><td style="width: 40px; height: 20px;"></td><td style="width: 40px; height: 20px;"></td><td style="width: 40px; height: 20px;"></td><td style="width: 40px; height: 20px;"></td></tr> </table> </div>												
<p><b>Multiple-choice</b></p> <p>Select a single response from a list of mutually exclusive choices.</p>	<p>Which color of visible light travels the fastest in crown glass?</p> <p> <input type="radio"/> violet  <input type="radio"/> yellow  <input type="radio"/> red  <input type="radio"/> blue  <input type="radio"/> green         </p> <p>The only type of calculator that I am allowed to use during exams is a <span style="border: 1px solid black; padding: 2px;">--Select--</span> calculator.</p>												
<p><b>Multiple-select</b></p> <p>Select one or more responses from a list of non-exclusive choices.</p>	<p>Pictured below is an NaCl layer. Which of the squares are unit cells?</p>  <p> <input type="checkbox"/> A  <input type="checkbox"/> B  <input type="checkbox"/> C         </p>												

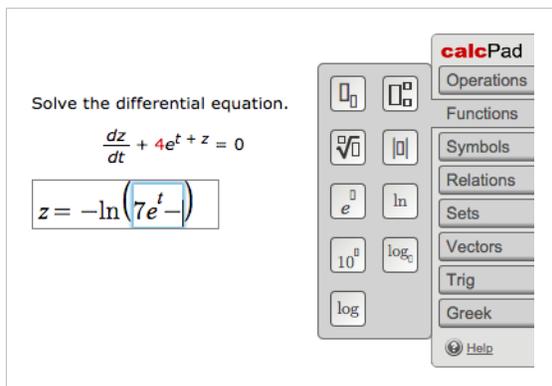
Question Type	Example
<p><b>NumberLine</b></p> <p>Either plot points, intervals, or inequalities on a number line graph, or drag labeled points to the correct position on a number line.</p>	<p>Plot the interval on the real number line. <math>(-4, 1]</math></p> 
<p><b>Numerical</b></p> <p>Type a numerical answer and optionally a unit.</p> <p>Similar question types:</p> <ul style="list-style-type: none"> <li>• <a href="#">calcPad®</a></li> <li>• <a href="#">fill-in-the-blank</a></li> <li>• <a href="#">math</a> (calculator notation)</li> <li>• <a href="#">mathPad</a></li> <li>• <a href="#">numerical</a></li> <li>• <a href="#">physPad®</a></li> </ul>	<p><math>y = x^2 - 11x + 28</math></p> <p>What is a root of this equation?</p> <input type="text"/> <p>Enter a number.</p>
<p><b>pencilPad</b></p> <p>Use the pencilPad to draw a simple figure to respond to the question.</p>	<p>Sketch the voltage across the inductor as a function of time. Be sure to include axis labels and scales.</p> 

Question Type	Example
<p><b>physPad</b></p> <p>Use the physPad tool to enter a correctly formatted mathematical expression that might include symbols used in physics.</p> <p>Similar question types:</p> <ul style="list-style-type: none"> <li>• calcPad®</li> <li>• fill-in-the-blank</li> <li>• math (calculator notation)</li> <li>• mathPad</li> <li>• numerical</li> <li>• physPad®</li> </ul>	<p>A light beam traveling in the negative z-direction has a magnetic field <math>\vec{B} = (2.93 \times 10^{-9} \hat{x} + -3.27 \times 10^{-9} \hat{y})</math> T at a given instant of time. The electric field in the beam has a magnitude of 1.32 N/C at the same time.</p> <p>Write <math>\vec{E}</math> in terms of unit vectors.</p> <p><math>\vec{E} = </math> <input type="text" value="( )"/> <math>\hat{x}</math> <input type="text" value=""/> N/C</p> 
<p><b>Show My Work</b></p> <p>Explain your reasoning or the process you used to answer the question.</p>	<p>The ticket prices for a movie are shown in the illustration. Receipts for one showing were \$1562 for an audience of 179 people. How many general admission tickets and how many senior citizen tickets were sold?</p> <p><input type="text"/> general tickets sold</p> <p><input type="text"/> senior tickets sold</p>  <p><b>Show My Work:</b> beta (Required) ?</p> <p>What steps or reasoning did you use? Your work counts towards your score.</p> <p>You can submit show my work an unlimited number of times.</p>

**See Also:**  
[Ask Your Teacher for Help With a Question on page 188](#)

## Answer calcPad<sup>®</sup> Questions

WebAssign calcPad<sup>®</sup> questions are displayed with a rectangular answer box similar to answer boxes used for other question types, but when you click a calcPad<sup>®</sup>-enabled answer box, the calcPad<sup>®</sup> palette opens, allowing you to answer the question with a correctly formatted mathematical expression.



### To answer a calcPad<sup>®</sup> question:

1. Click the answer box to open the tool palette.

**Note:** Don't use the keyboard to navigate to the answer box.

2. Click the tool palette buttons or type to answer the question.
  - Tool palette buttons are organized in expandable groups, such as **Operations** and **Trig**.
  - Some buttons insert placeholder boxes to show you where you can type numbers, variables, or expressions.

For example, if you insert a fraction, placeholder boxes are displayed for both the numerator and denominator.

The expression is displayed in the answer box as you enter it. If necessary, the answer box becomes larger to fit your answer.

To do this	Do this
Enter variables.	Type the variable name using the case and spelling specified in the question. Variables are automatically italicized.
Enter symbols like $\pi$ or $\infty$ .	Click <b>Symbols</b> and click the symbol.
Move the insertion point in the answer box.	Press the HOME, END, and arrow keys.

To do this	Do this
Move the insertion point into or out of a placeholder box.	Press the arrow keys or use the mouse.  <div style="border: 1px solid #ccc; background-color: #fff9c4; padding: 5px; margin-top: 10px;"> <b>Note:</b> Usually the insertion point is automatically moved to a placeholder box when it is created.                 </div>
Delete a character, the selected expression, or notation such as fractions.	Press BACKSPACE or DELETE.

If you have trouble typing your answer, try using the pad buttons.

**Note:**

- Answers are case-sensitive;  $x$  and  $X$  are not the same.
- Do not type commas in numbers; 5,280 is not correct.
- Use the pad button when entering fractions between commas (for example, fractions in a list). This notation can be typed, but not intuitively. See the examples for details.
- Do not enter mixed numbers, for example,  $2\frac{1}{2}$ . Instead, use decimals or improper fractions.
- When entering scientific notation, always use a lowercase e, for example,  $1.23e-5$ .
- Unless instructed otherwise, express angles for trigonometric functions in radians.
- Keyboard characters that are not mathematically useful — for example,  $\&$ ,  $@$ , and foreign language characters — are intentionally not displayed when typed. To enter Greek characters, use the buttons or keyboard shortcuts for the tool.
- Do not use function notation — for example,  $f(x)$  — as these answers can't be graded.

**See Also:**

[Submit Your Answers](#) on page 45

[Answers That Cannot Be Understood](#) on page 79

## calcPad<sup>®</sup> Reference

You can enter the following notation in calcPad<sup>®</sup>.

Notation	Keyboard	Button Group	Button
Decimal numbers	0123456789.		
Fractions	/	Operations	

Notation	Keyboard	Button Group	Button
<b>Variables</b>	Type variables exactly as specified in the question. Variable names are displayed in italics. Variables are case-sensitive. You can't substitute $x$ for $X$ .		
<b>Addition</b>	+	<b>Operations</b>	
<b>Subtraction</b>	-	<b>Operations</b>	
<b>Multiplication</b>	*	<b>Operations</b>	
<b>Division</b>		<b>Operations</b>	
<b>Parentheses</b>	( The closing parenthesis is added automatically.	<b>Sets</b>	
<b>Set delimiters (braces)</b>	{ The closing brace is added automatically.	<b>Sets</b>	
<b>Closed interval (brackets)</b>	[ $a, b$ The closing bracket is added automatically.	<b>Sets</b>	
<b>Open interval (parentheses)</b>	( $a, b$ The closing parenthesis is added automatically.	<b>Sets</b>	
<b>Half-closed interval (half-open interval)</b>	1. Type [ $a, b$ 2. Press SHIFT + RIGHT ARROW 3. Type ) You can substitute ( or ] as needed.	<b>Sets</b>	 or 
<b>Empty set</b>	empty	<b>Sets</b>	
<b>Union</b>	union	<b>Sets</b>	
<b>Intersection</b>	intersect	<b>Sets</b>	
<b>Square root</b>	sqrt	<b>Operations</b>	
<b>Exponent</b>	^	<b>Operations</b>	

Notation	Keyboard	Button Group	Button
<b>Factorial</b>	$n!$	<b>Operations</b>	
<b>Base or subscript</b>	$n_b$	<b>Functions</b>	
<b>Exponent and subscript of a variable</b>	$n_b$ RIGHT ARROW $^x$	<b>Functions</b>	
<b><math>n</math>th root</b>		<b>Functions</b>	
<b>Absolute value</b>	abs or   The closing vertical bar is added automatically.	<b>Functions</b>	
<b>Exponential function</b>	$e^x$ or exp	<b>Functions</b>	
<b>Natural logarithm</b>	$\ln$	<b>Functions</b>	
<b>Power of 10</b>	$10^x$	<b>Functions</b>	
<b>Logarithm (base 10)</b>	log	<b>Functions</b>	
<b>General Log</b>	log_	<b>Functions</b>	
<b>pi</b>	pi	<b>Symbols</b>	
<b>theta</b>	theta	<b>Symbols</b>	
<b>Infinity</b>	infinity	<b>Symbols</b>	
<b>Does not exist</b>	DNE	<b>Symbols</b>	
<b>Undefined</b>	UNDEFINED	<b>Symbols</b>	
<b>Imaginary unit</b>		<b>Symbols</b>	
<b>Degrees</b>		<b>Symbols</b>	
<b>Equal</b>	=	<b>Relations</b>	
<b>Greater than</b>	>	<b>Relations</b>	
<b>Greater than or equal to</b>	>=	<b>Relations</b>	
<b>Less than</b>	<	<b>Relations</b>	
<b>Less than or equal to</b>	<=	<b>Relations</b>	

Notation	Keyboard	Button Group	Button
<b>No solution</b>	NOSOLUTION	<b>Relations</b>	
<b>Sine</b>	sin	<b>Trig</b>	
<b>Cosine</b>	cos	<b>Trig</b>	
<b>Tangent</b>	tan	<b>Trig</b>	
<b>Cosecant</b>	csc	<b>Trig</b>	
<b>Secant</b>	sec	<b>Trig</b>	
<b>Cotangent</b>	cot	<b>Trig</b>	
<b>Inverse sine (arcsine)</b>	sin <sup>-1</sup> or arcsin	<b>Trig</b>	
<b>Inverse cosine (arccosine)</b>	cos <sup>-1</sup> or arccos	<b>Trig</b>	
<b>Inverse tangent (arctangent)</b>	tan <sup>-1</sup> or arctan	<b>Trig</b>	
<b>Inverse cosecant (arccosecant)</b>	csc <sup>-1</sup> or arccsc	<b>Trig</b>	
<b>Inverse secant (arcsecant)</b>	sec <sup>-1</sup> or arcsec	<b>Trig</b>	
<b>Inverse cotangent (arccotangent)</b>	cot <sup>-1</sup> or arccot	<b>Trig</b>	
<b>Hyperbolic sine</b>	sinh	<b>Trig</b>	
<b>Hyperbolic cosine</b>	cosh	<b>Trig</b>	
<b>Hyperbolic tangent</b>	tanh	<b>Trig</b>	
<b>Hyperbolic cosecant</b>	csch	<b>Trig</b>	
<b>Hyperbolic secant</b>	sech	<b>Trig</b>	
<b>Hyperbolic cotangent</b>	coth	<b>Trig</b>	
<b>Inverse hyperbolic sine (area hyperbolic sine)</b>	sinh <sup>-1</sup> or arcsinh	<b>Trig</b>	
<b>Inverse hyperbolic cosine (area hyperbolic cosine)</b>	cosh <sup>-1</sup> or arccosh	<b>Trig</b>	
<b>Inverse hyperbolic tangent (area hyperbolic tangent)</b>	tanh <sup>-1</sup> or arctanh	<b>Trig</b>	

Notation	Keyboard	Button Group	Button
<b>Inverse hyperbolic cosecant (area hyperbolic cosecant)</b>	$\operatorname{csch}^{-1}$ or $\operatorname{arccsch}$	<b>Trig</b>	
<b>Inverse hyperbolic secant (area hyperbolic secant)</b>	$\operatorname{sech}^{-1}$ or $\operatorname{arcsech}$	<b>Trig</b>	
<b>Inverse hyperbolic cotangent (area hyperbolic cotangent)</b>	$\operatorname{coth}^{-1}$ or $\operatorname{arcoth}$	<b>Trig</b>	
<b>Bold vector</b>		<b>Vectors</b>	
<b>Vector bracket</b>		<b>Vectors</b>	
<b>Arrow vector</b>		<b>Vectors</b>	
<b>i unit vector</b>		<b>Vectors</b>	
<b>j unit vector</b>		<b>Vectors</b>	
<b>k unit vector</b>		<b>Vectors</b>	
<b>Unit vector (hat vector)</b>		<b>Vectors</b>	
<b>Lowercase Greek letter</b>	Name of the letter in lowercase, for example, alpha, beta, gamma.	<b>Greek</b>	
<b>Uppercase Greek letter</b>	Capitalized name of the letter, for example, Alpha, Beta, Gamma.	<b>Greek</b>	

## Examples of Math Notation with calcPad®

The following examples illustrate entry of some common expressions.

Expression	Do this	To display this
<b>A simple expression with integers</b>	Type $2x+52500$	$2x + 52500$
<b>A polynomial with a fractional coefficient</b>	<ol style="list-style-type: none"> <li>1. Type <math>1/2</math> and press RIGHT ARROW</li> <li>2. Type <math>x^2</math> and press RIGHT ARROW</li> <li>3. Type <math>+4x+2</math></li> </ol>	$\frac{1}{2}x^2 + 4x + 2$
<b>A simple inequality</b>	Type $x \geq -4$	$x \geq -4$
<b>Set notation with fractions</b>	<ol style="list-style-type: none"> <li>1. Type <math>(1/9</math> and press RIGHT ARROW</li> <li>2. Type <math>,2</math> and press SHIFT + LEFT ARROW to select the 2</li> <li>3. Type <math>/7</math> and press RIGHT ARROW</li> <li>4. Type <math>,3</math> and press SHIFT + LEFT ARROW to select the 3</li> <li>5. Type <math>/5</math></li> </ol>	$(\frac{1}{9}, \frac{2}{7}, \frac{3}{5})$
<b>A square root</b>	<ol style="list-style-type: none"> <li>1. Type <b>sqrt</b> The square root symbol is created.</li> <li>2. Type <math>x</math></li> </ol>	$\sqrt{x}$
<b>A cube root</b>	<ol style="list-style-type: none"> <li>1. Click <b>Functions</b> &gt; </li> <li>2. Type <math>3</math> and press RIGHT ARROW</li> <li>3. Type <math>x</math></li> </ol>	$\sqrt[3]{x}$
<b>An expression involving pi and Euler's number</b>	<ol style="list-style-type: none"> <li>1. Type <b>pi+</b></li> <li>2. Click <b>Functions</b> &gt; </li> <li>3. Type <math>2</math></li> </ol>	$\pi + e^2$
<b>The natural logarithm of an absolute value</b>	<ol style="list-style-type: none"> <li>1. Type <b>ln</b> and press RIGHT ARROW</li> <li>2. Type <math> x</math> The closing vertical bar is automatically added.</li> </ol>	$\ln( x )$
<b>A complex number</b>	<ol style="list-style-type: none"> <li>1. Type <math>2+3</math></li> <li>2. Click <b>Symbols</b> &gt; </li> </ol>	$2 + 3i$

Expression	Do this	To display this
A vector in vector bracket form	<ol style="list-style-type: none"> <li>Click <b>Vectors</b> &gt; </li> <li>Type <b>12, 15, 22</b></li> </ol>	$\langle 12, 15, 22 \rangle$
A vector in bold i-j-k form	<ol style="list-style-type: none"> <li>Type <b>5</b></li> <li>Click <b>Vectors</b> &gt; </li> <li>Type <b>+24</b></li> <li>Click <b>Vectors</b> &gt; </li> <li>Type <b>+4</b></li> <li>Click <b>Vectors</b> &gt; </li> </ol>	$5\mathbf{i} + 24\mathbf{j} + 4\mathbf{k}$

## Answer mathPad®, calcPad®, or physPad® Questions on an iPad®

It makes no difference to your grade whether you complete your work on an iPad® or on another supported platform. However, there are some differences in how you work on the iPad®:

- The expression is displayed larger while you are editing it.
- You can't copy or paste parts of the expression.
- Because you can't use arrow keys to navigate in the expression, tap to change your insertion point when needed.



### Tip:

- Tapping the pad button is usually faster and easier than using the keyboard.
- To prevent the on-screen keyboard from hiding part of the problem or your work, turn your iPad® to work in portrait mode. Also, consider using a split keyboard.

### See Also:

[Problems Working on iPad](#) on page 206

## Answers That Cannot Be Understood

If your answer contains one or more syntax errors that prevent WebAssign from being able to grade it, WebAssign displays the message *Your answer cannot be understood or graded*. Depending on your instructor, answers with syntax errors might be counted as incorrect submissions.

Often, the problem is a simple typographical error that is easy to spot and correct. After correcting the error, submit your answer again.

**Note:**

- If your answer is not counted as a submission, it is also not stored by WebAssign. This means that after certain actions, like closing and reopening the assignment or submitting an answer for a different question, your answers with syntax errors are no longer displayed in the assignment.
- Copying text from anywhere and pasting it in an answer box will result in an error. You must type your response using the keyboard or the tools provided.

## Common Errors

Some of the most common errors are listed here.

Problem	Incorrect	Correct
Brackets or braces instead of parentheses.	$4*\{x+3\}$	$4*(x+3)$
Unpaired parentheses.	$(1+2)+3)$	$((1+2)+3)$
Missing part of the expression.	$50*$	$50*3$
Too many consecutive operators.	$x++++2$	$x+2$
Unrecognized symbol.	$\$4.00$	$4.00$
	$4\&6$	$4+6$

## Errors Specific to Numerical Questions

The following errors are common in questions that require you to enter a number with or without a unit.

Problem	Incorrect	Correct
Misspelled unit.	3456 met/sec	3456 m/s
Specifying a unit when none is required.	3 m	3
<b>Note:</b> If displayed, check the answer format tip to see if units are required.		
Numerical answers cannot contain variables.	$2*x+3$	$2*10+3$
Numerical answers cannot use implicit multiplication.	$3(14)$	$3*14$
Numerical answers must use ** to specify exponents.	$2^3$	$2**3$

## Errors Specific to mathPad, calcPad, and physPad Questions

The following errors are common in mathPad, calcPad, or physPad questions, as well as older symbolic questions that require calculator notation.

Problem	Incorrect	Correct
Incorrect variables. Variable names are case-sensitive ( $x$ is not the same as $X$ ). If the question specifies Greek letters or symbols such as $l$ , do not substitute English letters.	$3X$ $3a$ $3l$	$3x$ $3a$ $3l$
Comma in number.	5,000	5000
Do not use ** to specify exponents.	2**3	$2^3$ $2^{\wedge}3$
Do not use uppercase E in scientific notation.	1.2E15	1.2e15

**Note:** In mathPad, calcPad, or physPad, typing  $2^{\wedge}3$  displays  $2^3$ .

### See Also:

[Answer Numerical Questions](#) on page 126

[Answer Math Questions with Calculator Notation](#) on page 107

[Answer mathPad Questions](#) on page 111

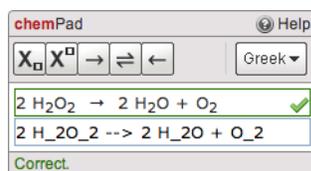
[Answer calcPad Questions](#) on page 72

[Answer physPad Questions](#) on page 139

## Answer chemPad Questions

Use WebAssign's chemPad to enter responses that are automatically displayed in correct chemical notation.

The chemPad tool includes a row of buttons at the top, a formatted display area in the middle, and a text entry box at the bottom.



### To answer a chemPad question:

Type your answer or click buttons to formulate your response in the text entry box. chemPad automatically updates the display area to show the formatted chemical notation.

The formatted chemical notation in the display area helps you to know that what you are typing represents the chemical formula or equation you intend to submit for your response.

Use the chemPad buttons as a way to enter some kinds of notation.

You can pause the pointer over any button to see its description.

To enter this	Click this	Type this
Subscript		_ (underscore)
Superscript		^ (caret)
Forward Reaction Arrow		-->
Equilibrium Reaction		<=>
Reverse Reaction Arrow		<--
Lowercase Greek letters such as $\alpha$ , $\beta$ , $\delta$		The lowercase name of the letter, such as alpha, beta, delta
Uppercase Greek letters such as $\Delta$ , $\Sigma$ , $\Omega$		The capitalized name of the letter, such as Delta, Sigma, Omega
Stacked Fraction		/
Dot ( $\cdot$ )		. (period) or *

 **Note:**

- chemPad is designed to minimize your need to add formatting to your answer. For most questions, you do not need to indicate to chemPad where to end a subscript or superscript, or to specifically delimit special symbols like arrows.
- Type spaces where they belong in your notation, such as between quantum levels in an electron configuration and between chemical formulas and arrows or plus signs in reaction equations.
- Typing an alphabetic character or a space ends a subscript or superscript. For example, type H\_20 to display H<sub>2</sub>O, or Na^+ + Cl^- to display Na<sup>+</sup> + Cl<sup>-</sup>.
- To type advanced notation such as general formulas and equilibrium equations, enclose the content of a superscript or subscript in braces {}. For example, type K\_{c} = [CO\_2] to display  $K_c = [\text{CO}_2]$ .
- The same rules are used to display the formatted notation and to score your response, so ensure that your formatted notation represents the answer you want to submit.

**See Also:**

[Submit Your Answers](#) on page 45

## Examples of Common chemPad Notation

The following examples illustrate entry of some common notation.

Subject	Scenario	Type this	To display this
<b>Molecules</b>	Using subscripts to format molecular ratios in chemical formulas	H_20	H <sub>2</sub> O
<b>Simple Ions</b>	Entering charges	Ca^2+	Ca <sup>2+</sup>
<b>Molecular or Compound Ions</b>	Entering charges and molecular ratios	SO_4^2-	SO <sub>4</sub> <sup>2-</sup>
<b>Complex Ions</b>	Grouping with subscripts and superscripts	[Co(SCN)_2(H_2O)_4]^+	[Co(SCN) <sub>2</sub> (H <sub>2</sub> O) <sub>4</sub> ] <sup>+</sup>
<b>Isotope</b>	Entering an isotopic mass number in the so-called M/A or M/Z format	^233_91Pa	<sup>233</sup> <sub>91</sub> Pa
<b>Chemical Reactions</b>	Entering a combination of correctly formatted chemical formulas and symbols	2 H_2O_2 --> 2 H_2O + O_2	2 H <sub>2</sub> O <sub>2</sub> → 2 H <sub>2</sub> O + O <sub>2</sub>

Subject	Scenario	Type this	To display this
<b>Chemical Reactions with States of Matter</b>	Entering a combination of correctly formatted chemical formulas with their respective states of matter and symbols	CH <sub>4</sub> (g) + 4 S(s) --> CS <sub>2</sub> (l) + 2 H <sub>2</sub> S(g)	CH <sub>4</sub> (g) + 4 S(s) → CS <sub>2</sub> (l) + 2 H <sub>2</sub> S(g)
<b>Electron Configuration</b>	Using complete notation	1s <sup>2</sup> 2s <sup>2</sup> 2p <sup>5</sup>	1s <sup>2</sup> 2s <sup>2</sup> 2p <sup>5</sup>
<b>Electron Configuration</b>	Using noble gas notation	[He] 2s <sup>2</sup> 2p <sup>5</sup>	[He] 2s <sup>2</sup> 2p <sup>5</sup>
<b>Equilibrium Expressions</b>	Including a stacked fraction and multiplication dots	$K_c = \frac{[\text{COCl}] \cdot [\text{Cl}]}{[\text{CO}] \cdot [\text{Cl}_2]}$	$K_c = \frac{[\text{COCl}] \cdot [\text{Cl}]}{[\text{CO}] \cdot [\text{Cl}_2]}$
<b>Electrochemical Cell Notation</b>	Enter cell line notation.	Mg(s)   Mg <sup>2+</sup> (aq)    Zn <sup>2+</sup> (aq)   Zn(s)	Mg(s)   Mg <sup>2+</sup> (aq)    Zn <sup>2+</sup> (aq)   Zn(s)

## Answer Essay Questions

Answer essay questions by entering your response in the box provided. After your instructor grades essays, your scores and instructor comments are displayed on the assignment, if enabled.

### To answer an essay question:

Click in the answer box and type your answer.

**✿ Important:** By default, you receive full credit after submitting your answer. After your instructor grades your answer your score can change. For example, if there are 5 points in an essay question, you might see that you have 5 out of 5 points when you first submit it. If your score is actually 4 out of 5 points, you will see the score change after the instructor enters the correct score of 4 points in WebAssign.

8. ...10 points No Response | [Show Details](#)

**Essay**  
Robert Frost said, "Good fences make good neighbors." Do you agree or disagree and why?  
(note: There is no incorrect answer to the first part.)  
 Agree  
 Disagree

Explain why.

### See Also:

[Submit Your Answers](#) on page 45

## Upload Files for Questions

Answer file upload questions by preparing the requested file in the required format and then uploading it. Unless your instructor tells you differently, your file should be smaller than 100 K.

Please upload your Excel file.  No file chosen

### To upload your file to a question:

1. Click **Browse** or **Choose File**, depending on your browser.
2. Navigate to the file you want to upload.
3. Click **Open** or **Choose**, depending on your browser.  
The location of your file is entered into the answer space.
4. If you want to change the file you uploaded to another file, click either **Browse** or **Choose File** and repeat the previous steps.
5. When you have finished selecting your file, click **Submit**. When you do so, your instructor can view and grade your file.

### See Also:

[Submit Your Answers](#) on page 45

## Answer Fill-In-The-Blank Questions

You can enter short text answers in fill-in-the-blank questions.

### To answer a fill-in-the-blank question:

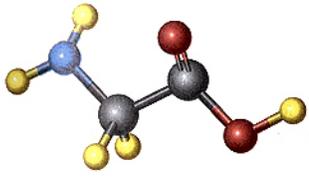
Enter a response in each answer box. Spelling counts, so check your answers before submitting the assignment.

Depending on your instructor, capitalization and extra spaces might not matter, but sometimes they do. For chemistry questions, for example, **na** is not the correct chemical symbol of sodium; you must enter **Na**.

If enabled by your instructor, an answer format tip is displayed below the answer box when it is selected and provides information about the form of the answer that is expected.

4. [+1 points](#) [Notes](#) Question: Chang6 2.P.043.

Write the molecular formula of glycine, an amino acid present in proteins. The color codes are gray (carbon), blue (nitrogen), red (oxygen), and yellow (hydrogen). (Type your answer using the notation CH<sub>4</sub> for CH<sub>4</sub>.)



[Submit New Answers To Question 4](#) [Save Work](#)

**See Also:**

[Submit Your Answers](#) on page 45

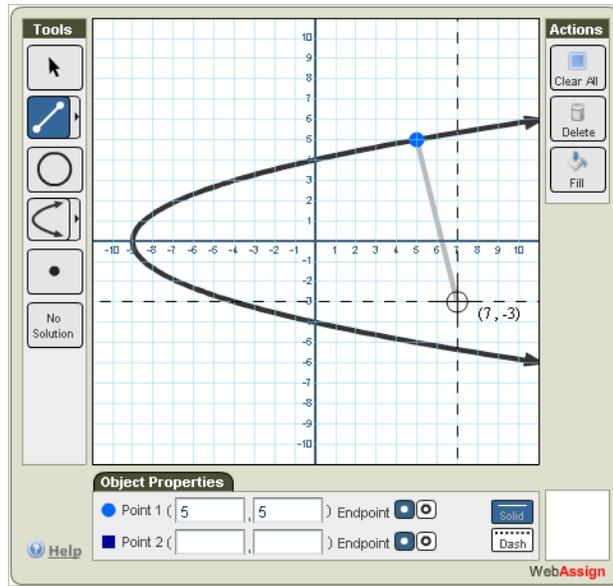
## Answering Graphing Questions

The WebAssign graphing tool lets you graph one or more mathematical elements directly on a set of coordinate axes. Your graph is scored automatically by WebAssign when you submit the assignment for grading.

The WebAssign graphing tool currently supports points, rays, segments, lines, circles, and parabolas. Inequalities can also be indicated by filling one or more areas.

 **Note:** Adobe® Flash® Player, version 10 or later is required. See [Required Browser Plug-Ins](#) on page x.

When you work on a graphing question, the WebAssign graphing tool displays below the question.



The middle of graphing tool is the drawing area. It contains labeled coordinate axes, which may have different axis scales and extents depending on the nature of the question you are working on. When you move your mouse over the drawing area, you'll notice that the cursor location is shown inside the Graph toolbar on the right.

On the left side of graphing tool is the list of Tools that lets you create graph objects, select objects to edit, and create fills.

The bottom of the graphing tool holds the Object Properties toolbar, which becomes active when you have a graph element selected. This toolbar shows you all the details about the selected graph object, and also lets you edit properties of that object or delete it from your graph.

Depending on the question, the graphing tool might display both  $x$  and  $y$  axes, or only the  $x$  axis. If only the  $x$  axis is displayed, you can specify only  $x$  coordinates; the  $y$  coordinate will always be 0. The maximum and minimum allowed values on the graph in the graphing tool are also dependent on the question.

### To answer a graphing question:

1. Use the WebAssign graphing tool to graph the objects that represent your answer.

Task	Tool	Steps
Graph a point		<ol style="list-style-type: none"> <li>1. Click the Point tool.</li> <li>2. Click a location in the graph.</li> </ol>

Task	Tool	Steps
Graph a line		<ol style="list-style-type: none"> <li>1. Expand the line tools, and click the Line tool.</li> <li>2. Click the location of the first point on the line.</li> <li>3. Click the location of a second point on the line.</li> </ol>
Graph a ray		<ol style="list-style-type: none"> <li>1. Expand the line tools, and click the Ray tool.</li> <li>2. Click the location of the endpoint of the ray.</li> <li>3. Click the location of a second point on the ray.</li> </ol>
Graph a line segment		<ol style="list-style-type: none"> <li>1. Expand the line tools, and click the Line Segment tool.</li> <li>2. Click the location of one endpoint of the line segment.</li> <li>3. Click the location of the second endpoint of the line segment.</li> </ol>
Graph a circle		<ol style="list-style-type: none"> <li>1. Click the Circle tool.</li> <li>2. Click the of the center of the circle.</li> <li>3. Click the location of a point on the circle.</li> </ol>
Graph a parabola with horizontal symmetry		<ol style="list-style-type: none"> <li>1. Expand the parabola tools, and click the parabola tool with horizontal symmetry.</li> <li>2. Click the location of the vertex of the parabola.</li> <li>3. Click the location of another point on the parabola.</li> </ol>
Graph a parabola with vertical symmetry		<ol style="list-style-type: none"> <li>1. Expand the parabola tools, and click the parabola tool with vertical symmetry.</li> <li>2. Click the location of the vertex of the parabola.</li> <li>3. Click the location of another point on the parabola.</li> </ol>
Indicate that no solution exists		<ol style="list-style-type: none"> <li>1. Click the No Solution tool.</li> <li>2. If any objects are currently on the graph, a confirmation dialog is displayed. Click <b>Yes</b> to confirm that you want to clear the graph.</li> </ol>
Select an object to change		<ol style="list-style-type: none"> <li>1. Click the Selection tool.</li> <li>2. Click the object in the graph that you want to change.</li> </ol>

Task	Tool	Steps
Change an object's coordinates		<ol style="list-style-type: none"> <li>1. Select an object in the graph.</li> <li>2. In the Object Properties below the graph, enter values for the object's center, vertex, or points.</li> <li>3. Enter the coordinates precisely. You can type decimal values, or you can type fractional values using the forward slash character, as in <math>\frac{2}{3}</math>.</li> <li>4. The graphing tool does not accept values that are outside of the displayed coordinate grid.</li> </ol>
Move an object with the mouse		<ol style="list-style-type: none"> <li>1. Select an object in the graph.</li> <li>2. Click and drag the object to a new location.</li> </ol>
Move an object with the keyboard		<ol style="list-style-type: none"> <li>1. Select an object in the graph.</li> <li>2. Press the cursor keys to move the object by single units up, down, left, or right.</li> </ol>
Reshape an object with the mouse		<ol style="list-style-type: none"> <li>1. Select an object in the graph.</li> <li>2. Click and drag the center, vertex, or specified point to a new location.</li> </ol>
Fill a region of the graph to specify inequality		<ol style="list-style-type: none"> <li>1. Graph one or more boundaries for the inequality.</li> <li>2. Click the Fill tool.</li> <li>3. Click a location in the region that should be filled.</li> </ol>
Clear a filled region of the graph		<ol style="list-style-type: none"> <li>1. Click the Fill tool.</li> <li>2. Click a location in the filled region that should be cleared.</li> </ol>
Set an open endpoint for a ray or line segment		<ol style="list-style-type: none"> <li>1. Select a ray or line segment in the graph.</li> <li>2. Click the Open Endpoint tool for the endpoint that should be open.</li> </ol>
Set a closed endpoint for a ray or line segment		<ol style="list-style-type: none"> <li>1. Select a ray or line segment in the graph.</li> <li>2. Click the Closed Endpoint tool for the endpoint that should be closed.</li> </ol>
Set a dashed line style to specify inequality		<ol style="list-style-type: none"> <li>1. Select an object in the graph.</li> <li>2. Click the Dash tool to graph the object as a dashed line or curve.</li> </ol>

Task	Tool	Steps
Set a solid line style		<ol style="list-style-type: none"> <li>1. Select an object in the graph.</li> <li>2. Click the Solid tool to graph the object as a solid line or curve.</li> </ol>
Delete an object		<ol style="list-style-type: none"> <li>1. Select an object in the graph.</li> <li>2. Click Delete or press Delete on the keyboard.</li> </ol>
Delete all objects		<ol style="list-style-type: none"> <li>1. Click Clear All.</li> <li>2. If any objects are currently on the graph, a confirmation dialog is displayed. Click <b>Yes</b> to confirm that you want to clear the graph.</li> </ol>
View help for the graphing tool		<ol style="list-style-type: none"> <li>1. Click <b>Help</b> in the lower left corner of the graphing tool.</li> </ol>

**Tip:**

- When you are setting or moving a point on the graph, dashed coordinate lines and coordinate values are displayed to help you.
- You can specify coordinates for objects when you are creating them by typing values in the Object Properties section of the graphing tool.
- You can click the endpoint of an unselected ray or line segment to toggle it between closed and open.
- You can print a graph by using your browser's print function.

2. Click either **Submit New Answers to Question** or **Submit Whole Question**, depending on the submission options for the assignment. A correct or incorrect icon displays in the lower right corner of the graphing tool.

**See Also:**

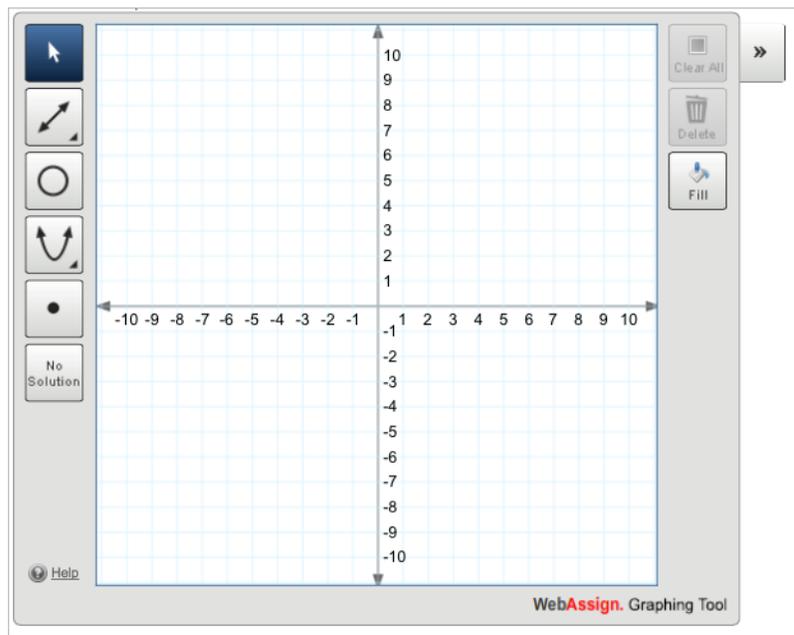
[Submit Your Answers](#) on page 45

[Student Help: Graphing Tool Video Tutorials](#)

## Use Graphing Tool on an iPad

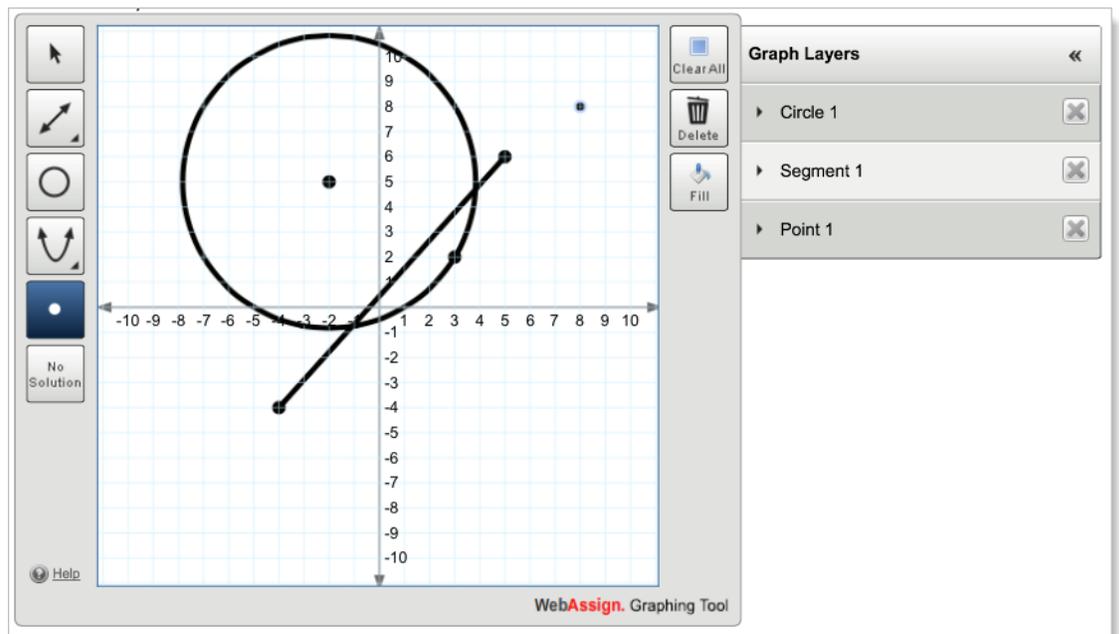
The WebAssign graphing tool lets you graph one or more mathematical elements directly on a set of coordinate axes. Your graph is scored automatically by

WebAssign when you submit the assignment for grading. You can answer graphing tool questions in Safari on iPad with iOS 5 or later.



To use the iPad version of the graphing tool, you select objects by tapping object buttons and plot objects on the graph by tapping points in the graphing area.

You can refine and change the properties of any object you plot by using Graph Layers. To view Graph Layers, click the arrows in the upper-right corner of the graphing tool or select an object on the graph.



## Basic Graphing Tool Tasks

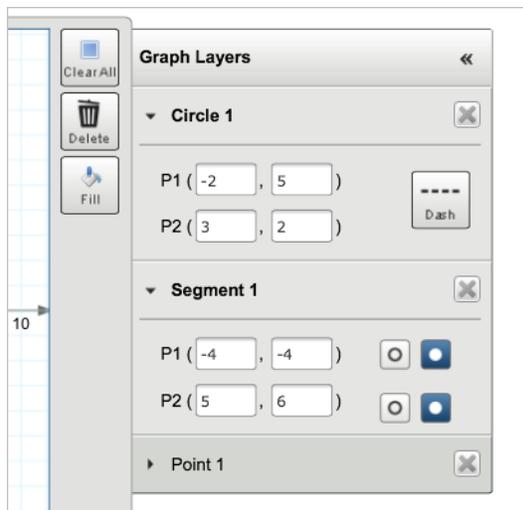
The following table describes how to perform basic graphing tool tasks using the iPad.

Task	Steps
Choose an object to graph	<p>Tap the object.</p> <p>If the object you want to graph is part of a drawer:</p> <ol style="list-style-type: none"> <li>1. Tap the object button shown on the tools menu to expand the drawer.</li> <li>2. Tap the object you want to graph.</li> </ol> <p> <b>Tip:</b> An object's button is highlighted in blue when it is selected.</p>
Graph a point	<ol style="list-style-type: none"> <li>1. Tap the <b>Point</b> button.</li> <li>2. Tap a location in the graph.</li> </ol>
Graph a line, ray, or line segment	<ol style="list-style-type: none"> <li>1. Expand the line tools, and tap the object you want to graph.</li> <li>2. Tap the location of the first point.</li> <li>3. Tap the location of a second point.</li> </ol>
Graph a circle	<ol style="list-style-type: none"> <li>1. Tap the <b>Circle</b> button.</li> <li>2. Tap the location of the center of the circle.</li> <li>3. Tap the location of a point on the circle.</li> </ol>
Graph a parabola	<ol style="list-style-type: none"> <li>1. Expand the parabola tools, and tap the object you want to graph.</li> <li>2. Tap the location of the vertex of the parabola.</li> <li>3. Tap the location of another point on the parabola.</li> </ol>
Indicate that no solution exists	<ol style="list-style-type: none"> <li>1. Tap the <b>No Solution</b> button.</li> <li>2. If any objects are currently on the graph, a confirmation dialog is displayed. Click <b>OK</b> to confirm that you want to clear the graph.</li> </ol>
Select an object to change	<ol style="list-style-type: none"> <li>1. Tap the <b>Selection</b> button. </li> <li>2. Tap the object in the graph that you want to select.</li> </ol> <p>When an object is selected, the color of the object changes and <b>Graph Layers</b> expands to show the object's current properties.</p>

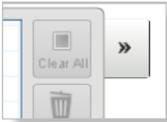
Task	Steps
Move an object	<ol style="list-style-type: none"> <li>1. If necessary, tap the <b>Selection</b> button. </li> <li>2. Touch an object in the graph to select it.</li> <li>3. Move your finger to drag the object to a new location.</li> </ol> <p> <b>Tip:</b> You can also modify an object by changing its points using <b>Graph Layers</b>.</p>
Reshape an object	<ol style="list-style-type: none"> <li>1. If necessary, tap the <b>Selection</b> button. </li> <li>2. Tap an object in the graph to select it.</li> <li>3. Touch the point you want to move.</li> <li>4. Move your finger to drag the center, vertex, or specified point to a new location.</li> </ol>
Fill a region of the graph to specify inequality	<p> <b>Note:</b> Making changes to the graph after you add fills will remove them, so make sure to fill regions last.</p> <ol style="list-style-type: none"> <li>1. Graph one or more boundaries for the inequality.</li> <li>2. Tap the <b>Fill</b> button.</li> <li>3. Tap a location in the region that should be filled.</li> </ol>
Clear a filled region of the graph	<ol style="list-style-type: none"> <li>1. Tap the <b>Fill</b> button.</li> <li>2. Tap a location in the filled region that should be cleared.</li> </ol>
Delete an object	<ol style="list-style-type: none"> <li>1. Select an object in the graph.</li> <li>2. Tap the <b>Delete</b> button.</li> </ol>
Delete all objects	<ol style="list-style-type: none"> <li>1. Tap the <b>Clear All</b> button. If any objects are currently on the graph, a confirmation dialog is displayed.</li> <li>2. Tap <b>Yes</b> to confirm that you want to clear the graph.</li> </ol>
View the answer key	<p>If your instructor has enabled it, you might be able to see the answer key for a question. This is typically allowed after you have used all of your submissions or after the due date has passed.</p> <p>Tap the <b>Show Key</b> button.</p>
View help for the graphing tool	Tap <b>Help</b> in the lower left corner of the graphing tool.

## Graph Layers

Graph Layers allows you to modify objects plotted on the graph. You can use Graph Layers to change an object's coordinates, reshape objects, and set endpoints or dashed lines.



The following table describes how to perform graphing tool tasks using Graph Layers.

Task	Steps
Open Graph Layers	<p>Tap the arrows to the upper right of the graph.</p>  <p><b>Tip:</b> You can also open <b>Graph Layers</b> by selecting an object.</p>
Close Graph Layers	Tap the <b>Graph Layers</b> header.
View an object's properties	<p>Tap an object name in <b>Graph Layers</b>.</p> <p><b>Note:</b> This will select the object in the graph.</p>
Change an object's coordinates	<ol style="list-style-type: none"> <li>1. Select an object in the graph.</li> <li>2. In <b>Graph Layers</b>, change the values for the object's points.</li> </ol> <p><b>Note:</b> The graphing tool does not accept values that are outside of the displayed coordinate grid.</p>

Task	Steps
Move or reshape an object	<ol style="list-style-type: none"> <li>1. Select an object in the graph.</li> <li>2. In <b>Graph Layers</b>, change the values for the object's points.</li> </ol>
Set an open endpoint for a ray or line segment	<ol style="list-style-type: none"> <li>1. Select a ray or line segment in the graph.</li> <li>2. In <b>Graph Layers</b>, tap the <b>Open Endpoint</b> button for the endpoint that should be open.</li> </ol>
Set a closed endpoint for a ray or line segment	<ol style="list-style-type: none"> <li>1. Select a ray or line segment in the graph.</li> <li>2. In <b>Graph Layers</b>, tap the <b>Closed Endpoint</b> button for the endpoint that should be closed.</li> </ol>
Set a dashed line style to specify inequality	<ol style="list-style-type: none"> <li>1. Select a solid object in the graph.</li> <li>2. In <b>Graph Layers</b>, tap the <b>Dash</b> button to graph the object as a dashed line or curve.</li> </ol>
Set a solid line style	<ol style="list-style-type: none"> <li>1. Select a dashed object in the graph.</li> <li>2. In <b>Graph Layers</b>, tap the <b>Dash</b> button to graph the object as a solid line or curve.</li> </ol>

**See Also:**

[Problems Working on iPad](#) on page 206

## Answer Identification Questions

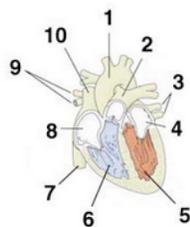
An identification question requires you to identify the correct response by clicking it in the image.

To answer this kind of question, you must use either Firefox or Internet Explorer.

### To answer an identification question:

Mouse over the image and click the correct answer.

Click the pulmonary artery.



**See Also:**

[Submit Your Answers](#) on page 45

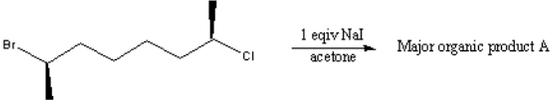
## Answer JME Questions

Some questions require you to use the Java Molecular Editor (JME) to draw chemical structures.

**Note:** Java™, version 1.6.0 through 1.7.35 is required. See [Required Browser Plug-Ins](#) on page x.

a) Open the editor below and draw the skeletal structure of the major organic product for the following reaction.

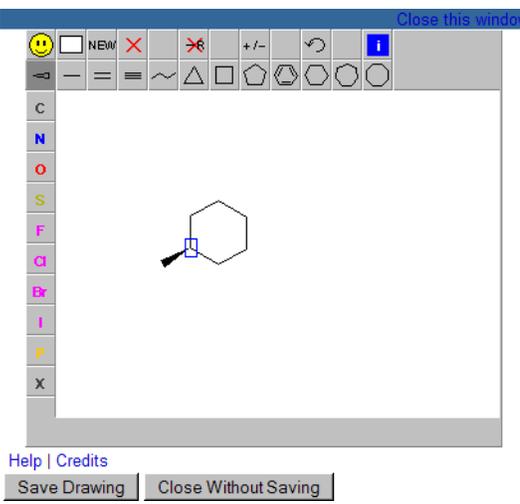
[? Organic Formatting Help](#)



A

### To answer a JME question:

1. Click **Open JME Editor**.  
The JME Editor opens in a new window.



2. Use the toolbars to draw a chemical structure.
3. When you are done, click **Save Drawing**.  
The JME Editor closes and your drawing is entered in the answer box as a SMILES string.
4. Click **Submit**.

**See Also:**

Submit Your Answers on page 45

## Draw Chemical Structures in JME Molecular Editor

The following table describes how to draw and edit chemical structures in the JME Molecular Editor.



### Note:

- Java™, version 1.6.0 through 1.7.35 is required. See [Required Browser Plug-Ins](#) on page x.
- Whenever you add an atom in JME, the implied hydrogen atoms are listed based on the valence. For example, adding N displays NH<sub>3</sub>. The hydrogen atoms are implied, but are not explicitly drawn. This is the way most questions expect you to draw structures.

If a question specifically asks you to show hydrogen atoms, then add the hydrogen atoms explicitly.

Task	Steps
Add a new structure to the drawing	<p>By default, the JME tools add or change items in existing structures. To create a new structure in the drawing:</p> <ol style="list-style-type: none"> <li>1. Click .</li> <li>2. Add an atom, bond, ring, or carbon chain anywhere in the drawing area.</li> </ol>
Add an atom of one of the following elements — C, N, O, S, F, Cl, Br, I, P — as a new structure	<ol style="list-style-type: none"> <li>1. Click .</li> <li>2. Click the element's symbol.</li> <li>3. Click in the drawing area.</li> </ol>
Add any atom as a new structure	<ol style="list-style-type: none"> <li>1. Click .</li> <li>2. Click .</li> <li>3. In the popup window that is displayed, type the symbol of the atom you want to add.</li> <li>4. Click in the drawing area.</li> </ol>

Task	Steps
Add an atom and its bond to an existing structure	<ol style="list-style-type: none"> <li>1. Click a single bond , double bond , or triple bond .</li> <li>2. Click the atom in the structure where the bond should be added.</li> <li>3. Click the symbol of the atom that you want to add to the end of the bond, or click  and type the symbol of the atom you want to add.</li> <li>4. Click the end of the bond where the atom should be added.</li> </ol> <p> <b>Note:</b> When you add a bond to a structure in this way, a Carbon atom is always added to the end of the bond. When you "add" a different atom to the end of the bond, you are really replacing the Carbon.</p>
Add a bond between existing atoms	<ol style="list-style-type: none"> <li>1. Click a single bond , double bond , or triple bond .</li> <li>2. Drag from one atom to another.</li> </ol>
Change a bond type	<ol style="list-style-type: none"> <li>1. Click a single bond , double bond , or triple bond .</li> <li>2. Click the bond to be changed.</li> </ol>
Replace an atom	<ol style="list-style-type: none"> <li>1. Click the symbol of the new atom that you want to use, or click  and type the symbol of the atom you want to use.</li> <li>2. Click the atom to be replaced.</li> </ol>
Set the charge for an atom	<ol style="list-style-type: none"> <li>1. Click .</li> <li>2. Click the atom to be changed. If needed, click the atom multiple times to see the possible charges suggested by the JME Editor.</li> </ol> <p> <b>Note:</b> To set a different charge than those suggested, use the  tool and type a SMILES string without brackets, for example, Si, Fe++, or NH3+.</p>
Add a chain of carbon atoms	<ol style="list-style-type: none"> <li>1. Click .</li> <li>2. Starting from the atom to which the carbon chain attaches, drag in the drawing area until the number of carbon atoms you want to insert is displayed.</li> </ol>

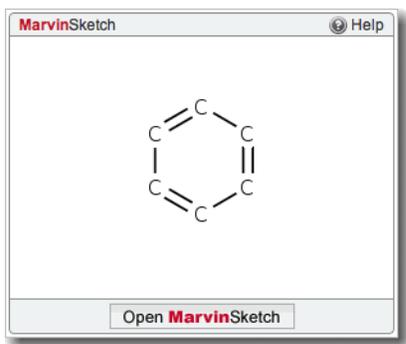
Task	Steps
Add a carbon ring	<ol style="list-style-type: none"> <li>Click the button that displays the kind of ring you want to add.  </li> <li>Click the atom to which the ring should be attached.</li> </ol>
Add wedge bonds	<ol style="list-style-type: none"> <li>Click .</li> <li>Click the atom in the structure where the bond should be added.</li> <li>If needed, click the wedge bond in the structure to change its type.</li> </ol>
Delete a bond or atom	<ol style="list-style-type: none"> <li>Click .</li> <li>Click the item you want to delete.</li> </ol>
Delete a structure	<ol style="list-style-type: none"> <li>Move the pointer over the structure to be deleted until a portion of the structure displays a blue selection outline.</li> <li>Click . The structure is deleted.</li> </ol>
Delete a functional group	<ol style="list-style-type: none"> <li>Click .</li> <li>Click the bond connecting the group with the main skeleton.</li> </ol>
Move a structure	<ol style="list-style-type: none"> <li>Move the pointer over the structure to be moved until a portion of the structure displays a blue selection outline.</li> <li>Move the pointer over an empty part of the drawing area.</li> <li>Drag the pointer to move the structure.</li> </ol>
Rotate a structure	<ol style="list-style-type: none"> <li>Move the pointer over the structure to be moved until a portion of the structure displays a blue selection outline.</li> <li>Move the pointer over an empty part of the drawing area.</li> <li>Hold down the SHIFT key and drag the pointer to rotate the structure.</li> </ol>
Undo your last change	Click  . You can undo only one change.
View the SMILES string for your drawing	Click  . The SMILES string is displayed in a popup window.

## Answer MarvinSketch Questions

Some questions require you to use MarvinSketch to draw chemical structures that are automatically scored in WebAssign.

**Note:** Java™ version 1.7.51 is required. See [Required Browser Plug-Ins](#) on page x.

In your assignments, MarvinSketch questions display an answer box with the MarvinSketch label. This box displays either your answer or basic instructions for answering a MarvinSketch question. At the top of the box is a help link. At the bottom of the box is a button that opens the MarvinSketch editor.

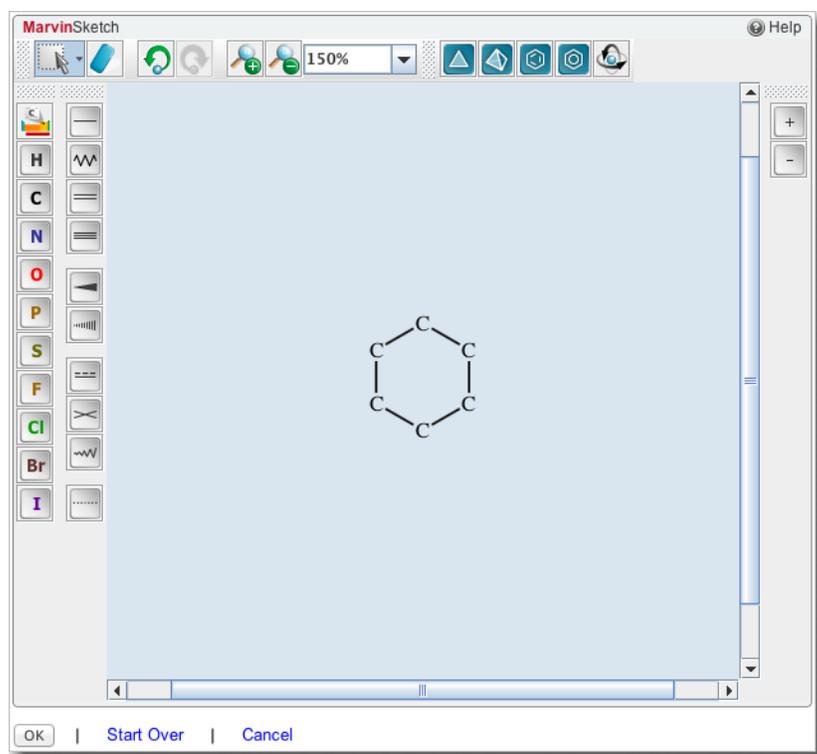


Some MarvinSketch questions require you to draw a structure or reaction from scratch. Others start with a partially drawn structure or reaction that you must complete.

### To answer a MarvinSketch question:

1. Click **Open MarvinSketch**, or click anywhere in the MarvinSketch frame.
  - a) If prompted, allow the Java™ applet and the medit application to run.The MarvinSketch editor opens in a new window.

**\* Important:** Displaying MarvinSketch might take a minute or so. You might see a Java™ logo while MarvinSketch is being loaded. Do not close this window before MarvinSketch has displayed or your browser might shut down unexpectedly, causing you to lose any unsaved work.



2. Use the tools to draw the chemical structure or reaction.
3. When you are finished, click **OK**.  
The window closes and your answer is displayed in the assignment.
4. Optional: If needed, click either **Cancel** or **Start Over** instead of **OK**.
  - Click **Cancel** to close the MarvinSketch window without updating your answer.
  - Click **Start Over** if the question started with an initial drawing to discard all of your work and display the initial drawing.

**See Also:**

[Submit Your Answers](#) on page 45

## Draw Chemical Structures in MarvinSketch

The following table describes how to draw and edit chemical structures and reactions in MarvinSketch.

Task	Steps
Add an atom of one of the following elements: H, C, N, O, P, S, F, Cl, Br, I	<ol style="list-style-type: none"> <li>1. Click the element symbol.</li> <li>2. Click in the drawing area.</li> </ol>

Task	Steps
Add any atom	<ol style="list-style-type: none"> <li>1. Click .</li> <li>2. Click the element symbol in the periodic table.</li> <li>3. Close or move the Periodic System window.</li> <li>4. Click in the drawing area.</li> </ol>
Add a special atom type or node, such as Q, M, X, and LP	<ol style="list-style-type: none"> <li>1. Click .</li> <li>2. Click the <b>Advanced</b> tab.</li> <li>3. Click the symbol on the Advanced page.</li> <li>4. Close or move the Periodic System window.</li> <li>5. Click in the drawing area.</li> </ol>
Add an atom and its bond to an existing atom	<ol style="list-style-type: none"> <li>1. Click the element symbol for the new atom.</li> <li>2. Drag from the existing atom until the symbol for the new atom is displayed under the pointer.</li> </ol>
Add two bonded carbon atoms	<ol style="list-style-type: none"> <li>1. Click .</li> <li>2. Click in the drawing area.</li> </ol>
Add a chain of carbon atoms	<ol style="list-style-type: none"> <li>1. Click .</li> <li>2. Drag in the drawing area until the number of carbon atoms you want to insert is displayed under the pointer.</li> </ol>
Replace an atom	<ol style="list-style-type: none"> <li>1. Click the element symbol for the new atom.</li> <li>2. Click the atom to be replaced.</li> </ol>
Add a single bond between existing atoms	<ol style="list-style-type: none"> <li>1. Click .</li> <li>2. Drag from one atom to another.</li> </ol> <p> <b>Note:</b> If the bond does not end at an existing atom, a carbon atom is automatically added at the end of the bond.</p>
Add a double bond between existing atoms	<ol style="list-style-type: none"> <li>1. Click .</li> <li>2. Drag from one atom to another.</li> </ol>
Change a bond type	<ol style="list-style-type: none"> <li>1. Click the button for the bond type you want to use.</li> <li>2. Click the bond to be changed.</li> </ol>

Task	Steps
Draw a reaction arrow (adds + signs among reactants and products; treats structures and names above arrow as agents)	<ol style="list-style-type: none"> <li>1. Click .</li> <li>2. Drag the pointer in the drawing area in the direction the arrow should point.</li> </ol>
Add agent names to a reaction arrow	<ol style="list-style-type: none"> <li>1. Click .</li> <li>2. Click the <b>Advanced</b> tab.</li> <li>3. Click <b>Pseudo</b> on the Advanced page.</li> <li>4. Type the agents in <b>Value</b> (subscripts are automatically formatted for values like H2O).</li> <li>5. Close or move the Periodic System window.</li> <li>6. Click above the reaction arrow.</li> </ol>
Add a single electron (monovalent radical) to an atom	<ol style="list-style-type: none"> <li>1. Click the radical tool .</li> <li>2. Click an atom.</li> </ol>
Add lone pairs to an atom	<ol style="list-style-type: none"> <li>1. Expand the lone pairs tool  and select the number of lone pairs to add.</li> <li>2. Click an atom.</li> </ol>
Draw a curved harpoon to show the movement of electrons	<ol style="list-style-type: none"> <li>1. Expand the electron flow tool  and select either <b>1 Electron</b> or <b>2 Electrons</b>.</li> <li>2. Click the source atom for the electron.</li> <li>3. Click the target atom for the electron, or to create a bond, click the midpoint between atoms.</li> </ol>
Set the charge for an atom	<ol style="list-style-type: none"> <li>1. Right-click the atom.</li> <li>2. Select <b>Charge &gt; value</b>, where <i>value</i> is the charge you want to use.</li> </ol>
Decrease an atom's charge	<ol style="list-style-type: none"> <li>1. Click .</li> <li>2. Click an atom.</li> </ol>
Increase an atom's charge	<ol style="list-style-type: none"> <li>1. Click .</li> <li>2. Click an atom.</li> </ol>

Task	Steps
Select a single item	<ol style="list-style-type: none"> <li>Expand the selection tool  and select <b>Rectangle Selection</b>.</li> <li>Click the item you want to select.</li> </ol>
Select an entire structure	<ol style="list-style-type: none"> <li>Expand the selection tool  and select <b>Structure Selection</b>.</li> <li>Click any part of a structure.</li> </ol>
Select items in a rectangular region	<ol style="list-style-type: none"> <li>Expand the selection tool  and select <b>Rectangle Selection</b>.</li> <li>Drag the pointer diagonally across the drawing area to select items.</li> </ol>
Select items in an arbitrary region	<ol style="list-style-type: none"> <li>Expand the selection tool  and select <b>Lasso Selection</b>.</li> <li>Drag the pointer to draw a boundary around the items you want to select.</li> </ol>
Select multiple items	<ol style="list-style-type: none"> <li>Expand the selection tool  and select <b>Rectangle Selection</b>.</li> <li>Click the first item you want to select.</li> <li>Hold the SHIFT key and click any additional items you want to select.</li> </ol>
Copy selected items to the clipboard	<p>Click .</p> <div style="border: 1px solid #ccc; background-color: #fff9c4; padding: 5px;"> <p><b>Note:</b> You can copy and paste only within the current MarvinSketch window.</p> </div>
Paste items from the clipboard	<ol style="list-style-type: none"> <li>Click .</li> <li>Click in the drawing area where you want to paste the clipboard items.</li> </ol> <div style="border: 1px solid #ccc; background-color: #fff9c4; padding: 5px;"> <p><b>Note:</b> You can copy and paste only within the current MarvinSketch window.</p> </div>
Delete selected items	<p>Click  or press DELETE.</p>

Task	Steps
Delete items by clicking	<ol style="list-style-type: none"> <li>1. Click .</li> <li>2. Click the items you want to delete.</li> </ol>
Move an atom	<ol style="list-style-type: none"> <li>1. Drag the atom to a new location.</li> </ol>
Move selected items	<ol style="list-style-type: none"> <li>1. Move the pointer toward the center of the selection until a square is displayed.</li> <li>2. Drag the selection to a new location.</li> </ol>
Undo your last change	Click  or press CTRL+Z.
Set a mapping number for an atom	<ol style="list-style-type: none"> <li>1. Right-click the atom you want to change.</li> <li>2. Select <b>Map &gt; M#</b> where # is the mapping number to set.</li> </ol>
Transform selected structure or entire drawing to aromatic representation	Click  .
Transform selected structure or entire drawing to non-aromatic representation	Click  .
Flip a structure horizontally	<ol style="list-style-type: none"> <li>1. Select the structure to flip.</li> <li>2. Right-click the structure and click <b>Transform &gt; Flip &gt; Flip Horizontally</b>.</li> </ol>
Flip a structure vertically	<ol style="list-style-type: none"> <li>1. Select the structure to flip.</li> <li>2. Right-click the structure and click <b>Transform &gt; Flip &gt; Flip Vertically</b>.</li> </ol>
Rotate a structure to align a bond horizontally	<ol style="list-style-type: none"> <li>1. Right-click a bond in the structure.</li> <li>2. Select <b>Align &gt; Horizontally</b>.</li> </ol>
Rotate a structure to align a bond vertically	<ol style="list-style-type: none"> <li>1. Right-click a bond in the structure.</li> <li>2. Select <b>Align &gt; Vertically</b>.</li> </ol>
Rotate selected items in 2 dimensions	<ol style="list-style-type: none"> <li>1. Move the pointer toward the center of the selection until a rotation cue  is displayed.</li> <li>2. Drag the selection to rotate it around its center.</li> </ol>

Task	Steps
Rotate the drawing in 3 dimensions	<ol style="list-style-type: none"> <li>1. Click .</li> <li>2. Drag the pointer to rotate the drawing.</li> </ol>
Rotate selected structure in 3 dimensions	<ol style="list-style-type: none"> <li>1. Move the pointer toward the center of the selection until a square is displayed.</li> <li>2. Right-click in the square and select <b>Transformation &gt; Rotate in 3D &gt; Free 3D Rotation.</b></li> <li>3. Drag the pointer to rotate the structure.</li> </ol>
Clean drawing in 2 dimensions	Click  . This standardizes bond lengths and angles to improve appearance. The drawing is converted to a 2-dimensional drawing if needed.
Clean drawing in 3 dimensions	Click  . This standardizes bond lengths and angles to improve appearance. The drawing is converted to a 3-dimensional drawing if needed.
Zoom in	Click  .
Zoom out	Click  .
Zoom to a specific magnification	Select a zoom level from the zoom level list <input type="text" value="200%"/> or type a new zoom level in the box.

## Answer Matching Questions

A matching question requires you to match information in one column to information in a second column. You answer these questions by selecting the appropriate match from a drop-down.

### To answer matching question:

Select the correct match from the drop-down. Select an answer for each item until all of the items are matched.

### See Also:

[Submit Your Answers](#) on page 45

## Answer Math Questions with Calculator Notation

Some questions require you to enter a mathematical expression for the answer, but do not display a tool for entering math notation. Instead, you type your answer using calculator notation.

If enabled by your instructor, an answer format tip is displayed below the answer box when it is selected and provides information about the form of the answer that is expected. Either of the following answer format tips might be shown:

- Enter a mathematical expression
- Enter a mathematical expression or equation with exact values

These questions are often displayed with the symbolic formatting help button

 [symbolic formatting help](#). You can click this button to see the allowed notation.

Any response that is equivalent to the answer formula will be graded as correct. For example,  $4x+12$  would be equivalent to  $(x+3)4$ . You can enter an asterisk (\*) for multiplication or use implicit multiplication with variables.

1. Type your answer using calculator notation and the exact variables specified in the question. Unless the question asks for your answer to be in a specific form, any mathematically correct expression that is equivalent to the key will be accepted as correct.

A dozen donuts costs 49¢ less than twelve individual donuts. If  $d$  is the cost of a dozen donuts in dollars, what is the formula for the cost of a single donut in cents?

 [symbolic formatting help](#)

2. Click the preview button  to see the expression you entered in formatted mathematical notation. This is often important in order to see if you have placed your parentheses correctly.

Clicking the preview button in the above question would display the following formatted notation:

$$\frac{100d + 49}{12}$$

3. Edit your response and preview it again if needed. Submit your response only when the formatted notation is correct.



### Note:

- Angles for trigonometric functions are expressed in radians.
- Answers are case-sensitive;  $x$  and  $X$  are not the same.
- Do not type commas in numbers; 5,280 is not correct.

### See Also:

[Submit Your Answers](#) on page 45

[Answers That Cannot Be Understood](#) on page 79

## Calculator Notation for Symbolic Questions

Calculator notation for symbolic questions includes a number of operators and functions.



### Note:

- Angles for trigonometric functions are expressed in radians.
- Answers are case-sensitive;  $x$  and  $X$  are not the same.
- Do not type commas in numbers; 5,280 is not correct.

Notation	Keyboard	Example	Notes
Addition	+	$x + 1$	
Subtraction	-	$x - 1$ $-x$	
Multiplication	*	$4*x$ $4x$	Implicit multiplication is allowed.
Division	/	$x/4$	
Exponents	^ *	$x**3$ or $x^3$	
Parentheses	( )	$4/(x + 1)$ $3(x + 1)$	
Equal	=	$y = 10$	
Greater than	>	$y > 10$	
Less than	<	$y < 10$	
Greater than or equal to	>=	$y >= 10$	
Less than or equal to	<=	$y <= 10$	
Absolute value	abs()	$abs(-5) = 5$	
Square root	sqrt()	$sqrt(x/5)$	
$n$ th root	root $n$ ()	$root5(x - 3)$	
Factorial	!	$5! = 120$ $(x - 1)!$	
Trigonometric functions	sin() cos() tan() sec() csc() cot()	$\sin(2x)$ $\text{atan}(\pi/4)$ $\cosh(y)$	Angles are expressed in radians. Inverse and hyperbolic functions are also supported with notation like $\text{atan}()$ and $\text{coth}()$ .

Notation	Keyboard	Example	Notes
$\pi$	pi	2 pi x	3.14 is only an approximation of $\pi$ and is not equivalent for grading.
Scientific notation	e	1e3 = 1000	
Natural log	ln()	ln(x)	
Euler's number	exp()	exp(x)	Raises Euler's number to the specified power. For example, $\text{exp}(2) = e^2$ .
General log	log_b()	log_2(x + 5)	The specified base must be a natural number.

## Examples of Symbolic Questions with Calculator Notation

The following examples illustrate entry of some common expressions.

Expression	Type this	Click the preview button  to display this
<b>A simple expression with integers</b>	2x+52500	$2x + 52500$
<b>A polynomial with a fractional coefficient</b>	(1/2)x^2+4x+2	$\frac{1}{2}x^2 + 4x + 2$
<b>A simple inequality</b>	x>=-4	$x \geq -4$
<b>A square root</b>	sqrt(x)	$\sqrt{x}$
<b>A cube root</b>	root3(x)	$\sqrt[3]{x}$
<b>An expression involving pi and Euler's number</b>	pi+exp(2)	$\pi + \text{exp}(2)$
<b>The natural logarithm of an absolute value</b>	ln(abs(x))	$\ln( x )$
<b>An inverse tangent in radians</b>	atan(x)	$\text{atan}(x)$

## Answers That Cannot Be Understood

If your answer contains one or more syntax errors that prevent WebAssign from being able to grade it, WebAssign displays the message Your answer cannot be understood or graded. Depending on your instructor, answers with syntax errors might be counted as incorrect submissions.

Often, the problem is a simple typographical error that is easy to spot and correct. After correcting the error, submit your answer again.

**Note:**

- If your answer is not counted as a submission, it is also not stored by WebAssign. This means that after certain actions, like closing and reopening the assignment or submitting an answer for a different question, your answers with syntax errors are no longer displayed in the assignment.
- Copying text from anywhere and pasting it in an answer box will result in an error. You must type your response using the keyboard or the tools provided.

## Common Errors

Some of the most common errors are listed here.

Problem	Incorrect	Correct
Brackets or braces instead of parentheses.	$4*\{x+3\}$	$4*(x+3)$
Unpaired parentheses.	$(1+2)+3)$	$((1+2)+3)$
Missing part of the expression.	$50*$	$50*3$
Too many consecutive operators.	$x++++2$	$x+2$
Unrecognized symbol.	$\$4.00$	$4.00$
	$4\&6$	$4+6$

## Errors Specific to Numerical Questions

The following errors are common in questions that require you to enter a number with or without a unit.

Problem	Incorrect	Correct
Misspelled unit.	3456 met/sec	3456 m/s
Specifying a unit when none is required.	3 m	3
<b>Note:</b> If displayed, check the answer format tip to see if units are required.		
Numerical answers cannot contain variables.	$2*x+3$	$2*10+3$
Numerical answers cannot use implicit multiplication.	$3(14)$	$3*14$
Numerical answers must use ** to specify exponents.	$2^3$	$2**3$

## Errors Specific to mathPad, calcPad, and physPad Questions

The following errors are common in mathPad, calcPad, or physPad questions, as well as older symbolic questions that require calculator notation.

Problem	Incorrect	Correct
Incorrect variables. Variable names are case-sensitive ( $x$ is not the same as $X$ ). If the question specifies Greek letters or symbols such as $l$ , do not substitute English letters.	$3X$ $3a$ $3l$	$3x$ $3a$ $3l$
Comma in number.	5,000	5000
Do not use <code>**</code> to specify exponents.	<code>2**3</code>	$2^3$ <code>2^3</code>
Do not use uppercase E in scientific notation.	1.2E15	1.2e15

 **Note:** In mathPad, calcPad, or physPad, typing `2^3` displays  $2^3$ .

### See Also:

[Answer Numerical Questions](#) on page 126

[Answer Math Questions with Calculator Notation](#) on page 107

[Answer mathPad Questions](#) on page 111

[Answer calcPad Questions](#) on page 72

[Answer physPad Questions](#) on page 139

## Answer mathPad Questions

WebAssign mathPad questions are displayed with a rectangular answer box similar to answer boxes used for other question types, but when you click a mathPad-

enabled answer box, the mathPad palette opens, allowing you to answer the question with a correctly formatted mathematical expression.

What is the formula for the distance  $d$  between the two points  $(x_1, y_1)$  and  $(x_2, y_2)$ ?

$$d = \sqrt{(x_1 - x_2)^2 + ( \quad )^2}$$

mathPad<sup>®</sup>

- Operations
- Functions
- Symbols
- Relations
- Sets
- Trig
- Greek
- Help

### To answer a mathPad question:

1. Click the answer box to open the tool palette.

 **Note:** Don't use the keyboard to navigate to the answer box.

2. Click the tool palette buttons or type to answer the question.

- Tool palette buttons are organized in expandable groups, such as **Operations** and **Trig**.
- Some buttons insert placeholder boxes to show you where you can type numbers, variables, or expressions.

For example, if you insert a fraction, placeholder boxes are displayed for both the numerator and denominator.

The expression is displayed in the answer box as you enter it. If necessary, the answer box becomes larger to fit your answer.

To do this	Do this
Enter variables.	Type the variable name using the case and spelling specified in the question. Variables are automatically italicized.
Enter symbols like $\pi$ or $\infty$ .	Click <b>Symbols</b> and click the symbol.
Move the insertion point in the answer box.	Press the HOME, END, and arrow keys.
Move the insertion point into or out of a placeholder box.	Press the arrow keys or use the mouse.  <b>Note:</b> Usually the insertion point is automatically moved to a placeholder box when it is created.
Delete a character, the selected expression, or notation such as fractions.	Press BACKSPACE or DELETE.

If you have trouble typing your answer, try using the pad buttons.

**Note:**

- Answers are case-sensitive;  $x$  and  $X$  are not the same.
- Do not type commas in numbers; 5,280 is not correct.
- Use the pad button when entering fractions between commas (for example, fractions in a list). This notation can be typed, but not intuitively. See the examples for details.
- Do not enter mixed numbers, for example,  $2\frac{1}{2}$ . Instead, use decimals or improper fractions.
- When entering scientific notation, always use a lowercase  $e$ , for example,  $1.23e-5$ .
- Unless instructed otherwise, express angles for trigonometric functions in radians.
- Keyboard characters that are not mathematically useful — for example,  $\&$ ,  $@$ , and foreign language characters — are intentionally not displayed when typed. To enter Greek characters, use the buttons or keyboard shortcuts for the tool.
- Do not use function notation — for example,  $f(x)$  — as these answers can't be graded.

**See Also:**

[Submit Your Answers](#) on page 45

[Answers That Cannot Be Understood](#) on page 79

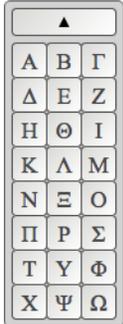
### mathPad Reference

You can enter the following notation in mathPad.

Notation	Keyboard	Button Group	Button
<b>Decimal numbers</b>	0123456789.		
<b>Fractions</b>	/	<b>Operations</b>	
<b>Variables</b>	Type variables exactly as specified in the question. Variable names are displayed in italics. Variables are case-sensitive. You can't substitute $x$ for $X$ .		
<b>Addition</b>	+	<b>Operations</b>	
<b>Subtraction</b>	-	<b>Operations</b>	
<b>Multiplication</b>	*	<b>Operations</b>	

Notation	Keyboard	Button Group	Button
<b>Division</b>		<b>Operations</b>	
<b>Parentheses</b>	( The closing parenthesis is added automatically.	<b>Sets</b>	
<b>Set delimiters (braces)</b>	{ The closing brace is added automatically.	<b>Sets</b>	
<b>Closed interval (brackets)</b>	[ <i>a</i> , <i>b</i> The closing bracket is added automatically.	<b>Sets</b>	
<b>Open interval (parentheses)</b>	( <i>a</i> , <i>b</i> The closing parenthesis is added automatically.	<b>Sets</b>	
<b>Half-closed interval (half-open interval)</b>	1. Type [ <i>a</i> , <i>b</i> 2. Press SHIFT + RIGHT ARROW 3. Type )  You can substitute ( or ] as needed.	<b>Sets</b>	 or 
<b>Empty set</b>	empty	<b>Sets</b>	
<b>Union</b>	union	<b>Sets</b>	
<b>Intersection</b>	intersect	<b>Sets</b>	
<b>Square root</b>	sqrt	<b>Operations</b>	
<b>Exponent</b>	^	<b>Operations</b>	
<b>Factorial</b>	<i>n</i> !		
<b>Base or subscript</b>	<i>n_b</i>	<b>Functions</b>	
<b>Exponent and subscript of a variable</b>	<i>n_b</i> RIGHT ARROW <sup>x</sup>	<b>Functions</b>	
<b><i>n</i>th root</b>		<b>Functions</b>	
<b>Absolute value</b>	abs or   The closing vertical bar is added automatically.	<b>Functions</b>	
<b>Exponential function</b>	e^ or exp	<b>Functions</b>	

Notation	Keyboard	Button Group	Button
Natural logarithm	ln	Functions	
Power of 10	10^	Functions	
Logarithm (base 10)	log	Functions	
General Log	log_	Functions	
pi	pi	Symbols	
theta	theta	Symbols	
Infinity	infinity	Symbols	
Undefined	UNDEFINED	Symbols	
Imaginary unit		Symbols	
Degrees		Symbols	
Equal	=	Relations	
Greater than	>	Relations	
Greater than or equal to	>=	Relations	
Less than	<	Relations	
Less than or equal to	<=	Relations	
No solution	NOSOLUTION	Relations	
Sine	sin	Trig	
Cosine	cos	Trig	
Tangent	tan	Trig	
Cosecant	csc	Trig	
Secant	sec	Trig	
Cotangent	cot	Trig	
Inverse sine (arcsine)	sin^-1 or arcsin	Trig	

Notation	Keyboard	Button Group	Button
<b>Inverse cosine (arccosine)</b>	cos^-1 or arccos	<b>Trig</b>	
<b>Inverse tangent (arctangent)</b>	tan^-1 or arctan	<b>Trig</b>	
<b>Inverse cosecant (arccosecant)</b>	csc^-1 or arccsc	<b>Trig</b>	
<b>Inverse secant (arcsecant)</b>	sec^-1 or arcsec	<b>Trig</b>	
<b>Inverse cotangent (arccotangent)</b>	cot^-1 or arccot	<b>Trig</b>	
<b>Lowercase Greek letter</b>	Name of the letter in lowercase, for example, alpha, beta, gamma.	<b>Greek</b>	
<b>Uppercase Greek letter</b>	Capitalized name of the letter, for example, Alpha, Beta, Gamma.	<b>Greek</b>	

## Examples of Math Notation with mathPad

The following examples illustrate entry of some common expressions.

Expression	Do this	To display this
<b>A simple expression with integers</b>	Type $2x+52500$	$2x + 52500$
<b>A polynomial with a fractional coefficient</b>	<ol style="list-style-type: none"> <li>1. Type <math>1/2</math> and press RIGHT ARROW</li> <li>2. Type <math>x^2</math> and press RIGHT ARROW</li> <li>3. Type <math>+4x+2</math></li> </ol>	$\frac{1}{2}x^2 + 4x + 2$
<b>A simple inequality</b>	Type $x \geq -4$	$x \geq -4$

Expression	Do this	To display this
<b>Set notation with fractions</b>	<ol style="list-style-type: none"> <li>1. Type <b>(1/9</b> and press RIGHT ARROW</li> <li>2. Type <b>,2</b> and press SHIFT + LEFT ARROW to select the 2</li> <li>3. Type <b>/7</b> and press RIGHT ARROW</li> <li>4. Type <b>,3</b> and press SHIFT + LEFT ARROW to select the 3</li> <li>5. Type <b>/5</b></li> </ol>	$(\frac{1}{9}, \frac{2}{7}, \frac{3}{5})$
<b>A square root</b>	<ol style="list-style-type: none"> <li>1. Type <b>sqrt</b> The square root symbol is created.</li> <li>2. Type <b>x</b></li> </ol>	$\sqrt{x}$
<b>A cube root</b>	<ol style="list-style-type: none"> <li>1. Click <b>Functions</b> &gt; </li> <li>2. Type <b>3</b> and press RIGHT ARROW</li> <li>3. Type <b>x</b></li> </ol>	$\sqrt[3]{x}$
<b>An expression involving pi and Euler's number</b>	<ol style="list-style-type: none"> <li>1. Type <b>pi+</b></li> <li>2. Click <b>Functions</b> &gt; </li> <li>3. Type <b>2</b></li> </ol>	$\pi + e^2$
<b>The natural logarithm of an absolute value</b>	<ol style="list-style-type: none"> <li>1. Type <b>ln</b> and press RIGHT ARROW</li> <li>2. Type <b> x</b> The closing vertical bar is automatically added.</li> </ol>	$\ln( x )$
<b>A complex number</b>	<ol style="list-style-type: none"> <li>1. Type <b>2+3</b></li> <li>2. Click <b>Symbols</b> &gt; </li> </ol>	$2 + 3i$

### Select, Copy, and Paste Expressions in mathPad, calcPad®, and physPad®

You can select, copy, and paste expressions in the mathPad, calcPad®, and physPad® tools.

Sometimes, you need to select a part of your expression, for example, to use the selection as the argument of a function. You also select part of your expression to cut or copy it.

**To select part of an expression:**

- Drag the mouse or use the SHIFT+LEFT ARROW or SHIFT+RIGHT ARROW keys.

To select the entire expression, press CTRL+A.

- **iPad only:** Double-tap what you want to select. Double-tap another location to extend your selection.

 **Tip:** Double-tap your selection to expand it. For example, in the expression  $3x/2$ :

1. Double-tap 3 to select 3.
2. Double-tap the selection to select  $3x$ .
3. Double-tap the selection again to select the entire fraction.

**To copy and paste:**

 **Note:** You can't copy or paste using these tools on an iPad.

1. Select part of an expression to be copied or cut.
2. Copy or cut the selection.
  - To copy your selection, press CTRL+C.
  - To cut your selection, press CTRL+X.
3. Move the insertion point in the expression to where you want to paste what you copied.
4. Press CTRL+V.

**Answer mathPad<sup>®</sup>, calcPad<sup>®</sup>, or physPad<sup>®</sup> Questions on an iPad<sup>®</sup>**

It makes no difference to your grade whether you complete your work on an iPad<sup>®</sup> or on another supported platform. However, there are some differences in how you work on the iPad<sup>®</sup>:

- The expression is displayed larger while you are editing it.
- You can't copy or paste parts of the expression.
- Because you can't use arrow keys to navigate in the expression, tap to change your insertion point when needed.

 **Tip:**

- Tapping the pad button is usually faster and easier than using the keyboard.
- To prevent the on-screen keyboard from hiding part of the problem or your work, turn your iPad<sup>®</sup> to work in portrait mode. Also, consider using a split keyboard.

**See Also:**

[Problems Working on iPad](#) on page 206

**Answers That Cannot Be Understood**

If your answer contains one or more syntax errors that prevent WebAssign from being able to grade it, WebAssign displays the message **Your answer cannot be understood or graded**. Depending on your instructor, answers with syntax errors might be counted as incorrect submissions.

Often, the problem is a simple typographical error that is easy to spot and correct. After correcting the error, submit your answer again.

**Note:**

- If your answer is not counted as a submission, it is also not stored by WebAssign. This means that after certain actions, like closing and reopening the assignment or submitting an answer for a different question, your answers with syntax errors are no longer displayed in the assignment.
- Copying text from anywhere and pasting it in an answer box will result in an error. You must type your response using the keyboard or the tools provided.

**Common Errors**

Some of the most common errors are listed here.

Problem	Incorrect	Correct
Brackets or braces instead of parentheses.	$4*\{x+3\}$	$4*(x+3)$
Unpaired parentheses.	$(1+2)+3)$	$((1+2)+3)$
Missing part of the expression.	$50*$	$50*3$
Too many consecutive operators.	$x++++2$	$x+2$
Unrecognized symbol.	$\$4.00$	$4.00$
	$4\&6$	$4+6$

**Errors Specific to Numerical Questions**

The following errors are common in questions that require you to enter a number with or without a unit.

Problem	Incorrect	Correct
Misspelled unit.	$3456 \text{ met/sec}$	$3456 \text{ m/s}$

Problem	Incorrect	Correct
Specifying a unit when none is required.   <b>Note:</b> If displayed, check the answer format tip to see if units are required.	3 m	3
Numerical answers cannot contain variables.	$2*x+3$	$2*10+3$
Numerical answers cannot use implicit multiplication.	3(14)	$3*14$
Numerical answers must use ** to specify exponents.	$2^3$	$2**3$

### Errors Specific to mathPad, calcPad, and physPad Questions

The following errors are common in mathPad, calcPad, or physPad questions, as well as older symbolic questions that require calculator notation.

Problem	Incorrect	Correct
Incorrect variables. Variable names are case-sensitive ( $x$ is not the same as $X$ ).  If the question specifies Greek letters or symbols such as $l$ , do not substitute English letters.	$3X$ $3a$ $3l$	$3x$ $3a$ $3l$
Comma in number.	5,000	5000
Do not use ** to specify exponents.	$2**3$	$2^3$ $2^3$   <b>Note:</b> In mathPad, calcPad, or physPad, typing $2^3$ displays $2^3$ .
Do not use uppercase E in scientific notation.	1.2E15	1.2e15

#### See Also:

[Answer Numerical Questions](#) on page 126

[Answer Math Questions with Calculator Notation](#) on page 107

[Answer mathPad Questions](#) on page 111

[Answer calcPad Questions](#) on page 72

[Answer physPad Questions](#) on page 139

## Answering Matrix Questions

Matrix questions are displayed in arrays of numbers, symbols, or expressions that you answer in matrix or vector format. If the matrix is expandable, you are required to determine the number of boxes, rows, and columns for the correct answer.

Questions with a matrix require you to provide an answer in matrix or vector format.

**Note:** If the matrix is expandable, you determine the number of boxes, rows, and columns for the correct answer. The default number of answer boxes shown is not necessarily the number of the answer boxes for the correct answer. You can modify the number of answer boxes by clicking the:

- right arrow to increase the number of columns
- left arrow to decrease the number of columns
- down arrow to increase the number of rows
- up arrow to decrease the number of rows

### To answer a matrix question:

1. If the matrix is expandable, increase or decrease the number of columns and rows until you have the minimum number of answer boxes necessary to provide your answer.

It is possible you might have more boxes than your answer requires. If so, only type in the boxes you need to provide your answer and leave the extra boxes blank.

2. Type your answer into the answer boxes.

Compute the following:

$$M = \begin{pmatrix} 2 & 0 & 0 & 0 \\ 0 & 2 & 0 & 0 \\ 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 2 \end{pmatrix} \begin{pmatrix} 2 & 0 & 0 & 1 \\ 0 & 2 & 1 & 0 \\ 0 & 1 & 2 & 0 \\ 1 & 0 & 0 & 2 \end{pmatrix}$$

Answer:

				$\left. \begin{matrix} \rightarrow \\ \rightarrow \\ \rightarrow \end{matrix} \right\}$
$\left. \begin{matrix} \downarrow \\ \uparrow \end{matrix} \right\}$				

3. Click **Submit Answer** or **Submit Assignment** depending on the submission options for the assignment.

### See Also:

[Submit Your Answers](#) on page 45

## Answer Multiple-Choice Questions

Multiple-choice questions can have either option buttons beside the possible answers or drop-down menus for selecting your answer.

### To answer a multiple-choice question:

Select a single answer from a list of options.

Multiple-choice questions can display as a list of option buttons or as a drop-down list.

Which color of visible light travels the fastest in crown glass?

- violet
- yellow
- red
- blue
- green

The only type of calculator that I am allowed to use during exams is a  calculator.

 **Note:** Many multiple choice questions display a graph or image for each choice. Clicking any part of the choice — including a graph or image — selects it. Before submitting your answer, make sure the correct choice is selected.

### See Also:

[Submit Your Answers](#) on page 45

## Answer Multiple-Select Questions

Multiple-select questions in WebAssign use check boxes. You can select more than one answer for this type of question.

### To answer a multiple-select question:

Select one or more check boxes for your response. To clear a check box, click the checked box again.

2. 4/6 points Last Response | [Show Details](#)

**Multiselect Questions**  
Classify the following numbers. (Select all that apply.)

	31	-42	9.7	1/3	8500	-3	
natural numbers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	✓
whole numbers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	✓
integers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	✓

**See Also:**  
[Submit Your Answers](#) on page 45

## Answer NumberLine Questions

WebAssign NumberLine™ questions require you either to draw objects or to place labeled points on a number line.

**Note:** Adobe® Flash® Player, version 10 or later is required. See [Required Browser Plug-Ins](#) on page x.  
**iPad only:** Flash is not required.

Most NumberLine questions require you to draw objects, for example, to graph an interval or inequality. For these questions, NumberLine is displayed with all of the tools active below the number line.

Use the tools to enter your answer.

WebAssign NumberLine

Some NumberLine questions require you to place labeled points on the number line. For these questions, a set of labeled points is displayed above the number line and the drawing tools below the number line are not active.

Click and drag each point to its appropriate position. Some points might be unused.

WebAssign NumberLine

**iPad only:** The inactive drawing tools are not displayed for these questions.

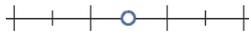
### To answer a NumberLine question:

Plot your answer on the number line or indicate that no solution exists.

**Note:**

- Depending on which type of NumberLine question you are answering, some actions will not be available.
- Two objects or points cannot be placed at exactly the same position on the number line.

To do this	Do this
Graph a point — a closed circle, an open circle, a parenthesis, or a bracket	<ol style="list-style-type: none"> <li>1. Click  if it is not already selected.</li> <li>2. Drag one of the point symbols —  — to the correct location on the number line.</li> </ol> <p><b>Note:</b> A menu of point symbols is displayed above the point. If needed, you can click a different symbol to be displayed.</p> <p><b>iPad only:</b></p> <ol style="list-style-type: none"> <li>1. Tap the point symbol you want to graph — .</li> <li>2. Tap the correct location for the point symbol on the number line.</li> </ol>
Draw a line, line segment, or ray	<ol style="list-style-type: none"> <li>1. If needed, graph one or more endpoints.</li> <li>2. Click .</li> <li>3. Click on the number line where you want to draw the line, segment, or ray.</li> </ol>
Place a labeled point on the number line	<ol style="list-style-type: none"> <li>1. Click  if it is not already selected.</li> <li>2. From the holding area above the number line, drag the point to the correct location on the number line.</li> </ol>
Indicate that no solution exists	<p>Click .</p> <p>Any objects currently on the number line are removed.</p>

To do this	Do this
Change a point	<ol style="list-style-type: none"> <li>1. Click  if it is not already selected.</li> <li>2. Click the point you want to change. A menu of point symbols is displayed above the selected point.</li> </ol>   <ol style="list-style-type: none"> <li>3. Click the symbol you want to use.</li> </ol>
Move a point	<ol style="list-style-type: none"> <li>1. Click  if it is not already selected.</li> <li>2. Drag the point you want to move to a new location.</li> </ol>
Erase an object	<ol style="list-style-type: none"> <li>1. Click .</li> <li>2. Click the object you want to remove.</li> </ol> <p>Any lines, segments, or rays touching the object are also erased.</p>
Erase everything from the number line	<ol style="list-style-type: none"> <li>1. Click .</li> </ol> <p>A message is displayed to confirm that you want to remove everything from the number line.</p> <ol style="list-style-type: none"> <li>2. Click <b>OK</b>.</li> </ol>
Undo the last action	Click  .
View help for the NumberLine tool	Click  .

## NumberLine on an iPad

You can answer NumberLine™ questions in Safari on iPad with iOS 5 or later.

This tool is tested and supported only for Safari on iPad with iOS 5 or later.



### Note:

- Other browsers and iOS versions might work, but are not supported.
- Performance might be slower on iPad 1 than on iPad 2.

It makes no difference to your grade whether you complete your work on an iPad or on another supported platform.



Notation	Example
A sum (+)	$300+4.5$
A difference (-)	$404.5-100$
A product (*)	$30.45*10$
A quotient (/)	$3045/10$
An exponent (**)	$3.045*10**2$

The standard order of operations is observed: parenthetical expressions are evaluated first, followed by exponents, products and quotients, and then sums and differences.

 **Tip:** By default, numerical questions require the answer to be within 2% of the correct value. However, particular questions, classes, or instructors might require greater accuracy, and will usually inform you if that is the case.

**See Also:**

[Submit Your Answers](#) on page 45

[Answers That Cannot Be Understood](#) on page 79

## Answer Numerical Questions With Units

Numerical questions with units require you to enter both a number and a unit for the answer, for example, **10 inches**. The kind of answer that is expected should be clear from the question.

If enabled by your instructor, an answer format tip is displayed below the answer box when it is selected and provides information about the form of the answer that is expected. The answer format tip indicates that a number with units is expected and might also specify whether significant figures will be checked.

### To answer a numerical question with units:

If the question requires you to specify units in your answer, type a number followed by a space and a unit, for example, **2500 meters**.

You can use standard abbreviations for units, and you can specify any compatible unit. For example, the responses **2500 meters**, **2.5 km**, and **2.5e+6 mm** are all equivalent. Be sure to spell the unit or abbreviation correctly.

 **Tip:** Your instructor might award partial credit if you specify the correct units, even if your answer is not correct.

## Rules for Units

Observe the following rules when specifying units.

Rule	Incorrect	Correct
<b>Type a space between the number and the unit.</b>	20g 20 g	20 g
<b>Units are case-sensitive.</b>	1 minute = 60 S	1 minute = 60 s
<b>Do not combine multiple values and units.</b>	3 minutes 15 seconds	3.25 minutes
<b>To change the dimension of a unit, follow the unit with a caret (^) and an exponent. Do not use the words "square" or "cubic." Do not use two asterisks (**) to specify the exponent.</b>	3 square miles 3 mi**2	3 mi <sup>2</sup>
<b>To divide a unit, use /. Do not use "per."</b>	miles per hour	miles/hour
<b>To multiply a unit, use a space or asterisk. Do not use a raised dot or hyphen.</b>	kW·h kilowatt-hour	kW*h kilowatt hour
<b>Many unit names accept singular and plural forms interchangeably. Do not pluralize unit abbreviations.</b>	3 mis	3 mi 3 miles
<b>Do not enter a fraction for the number when units are required.</b>	3/4 inch	0.75 inch

## Unit Names for Numerical Questions

Many different unit names and abbreviations can be used in numerical questions requiring units.

### Rules for Units

Observe the following rules when specifying units.

Rule	Incorrect	Correct
<b>Type a space between the number and the unit.</b>	20g 20 g	20 g
<b>Units are case-sensitive.</b>	1 minute = 60 S	1 minute = 60 s
<b>Do not combine multiple values and units.</b>	3 minutes 15 seconds	3.25 minutes

Rule	Incorrect	Correct
<b>To change the dimension of a unit, follow the unit with a caret (^) and an exponent. Do not use the words "square" or "cubic." Do not use two asterisks (**) to specify the exponent.</b>	3 square miles 3 mi**2	3 mi <sup>2</sup>
<b>To divide a unit, use /. Do not use "per."</b>	miles per hour	miles/hour
<b>To multiply a unit, use a space or asterisk. Do not use a raised dot or hyphen.</b>	kW·h kilowatt-hour	kW*h kilowatt hour
<b>Many unit names accept singular and plural forms interchangeably. Do not pluralize unit abbreviations.</b>	3 mis	3 mi 3 miles
<b>Do not enter a fraction for the number when units are required.</b>	3/4 inch	0.75 inch

## Units

This is not an exhaustive list, but includes the most commonly used units and abbreviations. For SI units, most derived units are not listed here.

 **Note:** For units having different values in different countries, the U.S. value is used.

Unit	Abbreviation	Notes
ampere	A	
angstrom	Å, ångström	
astronomicalunit	au, AU	
atmosphere	atm	
atomicmassunit	u, amu	
bar		
becquerel	Bq	
britishthermalunit	btu	
bushel	bu	
calorie	cal	
carat	ct	

Unit	Abbreviation	Notes
<b>cc</b>		Cubic centimeter. Do not use <b>cubic centimeter</b> .
<b>cm<sup>3</sup></b>		Cubic centimeter. Do not use <b>cubic centimeter</b> .
<b>coulomb</b>	C	
<b>cup</b>		
<b>curie</b>	Ci	
<b>day</b>	d	
<b>diopter</b>		The alternative spelling "dioptré" can also be used.
<b>dollar</b>	\$	The unit must follow the number, as in <b>3.25 \$</b> . Do not specify <b>\$3.25</b> .
<b>farad</b>	F	
<b>foot</b>	ft	Alternatively, feet.
<b>foot<sup>3</sup>/second</b>	cfs	
<b>gallon/hour</b>	gal/h, gph	
<b>gallon</b>	gal	
<b>grain</b>	gr	
<b>gram</b>	g, gm	
<b>henry</b>	H	
<b>hertz</b>	Hz, hz	
<b>horsepower</b>	hp	
<b>hour</b>	h, hr	
<b>inch</b>	in	
<b>joule</b>	J	
<b>kilocalorie</b>	Calorie	
<b>kilogram</b>	kg	
<b>kilometer/hour</b>	kph	
<b>kilowatt hour</b>	kWh	
<b>liter/minute</b>	lpm	
<b>liter/hour</b>	L/h	
<b>liter</b>	L	The alternative spelling "litre" can also be used.
<b>meter</b>	m	The alternative spelling "metre" can also be used.

Unit	Abbreviation	Notes
micron		
microsecond	$\mu\text{s}$ , us	
mile/gallon	mpg	
mile/hour	mph	
mile	mi	
minute	min	Use for time only.
mmHg		
molar	M	
mole	mol	
newton	N	
ohm		You cannot use the $\Omega$ character.
ounce	oz	
partsperbillion	ppb	Uses U.S. definition: $10^{-9}$ .
partspermillion	ppm	Uses U.S. definition: $10^{-6}$ .
partspertrillion	ppt	Uses U.S. definition: $10^{-12}$ .
pascal	Pa, pa	
picometer	pm	
pint	pt	
pound	lb	
proof		
psi		
quart	qt	
roentgen	rontgen, röntgen	
second	s, sec	Use for time only.
sievert	Sv	
tesla	T	
torr		
volt	V	
watt	W	
weber	Wb	
yard	yd	
year	yr	

## Combining Prefixes for SI Units

The following prefixes can be combined with SI base units to specify derived units. The derived unit or abbreviation cannot contain a space between the prefix and base unit.

Prefix	Abbreviation	Value	Example
<b>peta</b>	P	$10^{15}$	1.2 Pm
<b>tera</b>	T	$10^{12}$	2.3 terajoule
<b>giga</b>	G	$10^9$	3.4 Gg
<b>mega</b>	M	$10^6$	4.5 megavolt
<b>kilo</b>	k	$10^3$	5.6 km
<b>hecto</b>	h	$10^2$	6.7 hectometer
<b>deca, deka</b>	da	10	7.8 dag
<b>deci</b>	d	$10^{-1}$	8.9 deciliter
<b>centi</b>	c	$10^{-2}$	9.0 cm
<b>milli</b>	m	$10^{-3}$	0.1 milliampere
<b>micro</b>	$\mu$	$10^{-6}$	2.4 $\mu\text{g}$
	 <b>Note:</b> You cannot substitute u or mu.		
<b>nano</b>	n	$10^{-9}$	4.6 nanosecond
<b>pico</b>	p	$10^{-12}$	6.8 ps
<b>femto</b>	f	$10^{-15}$	8.0 femtometer

## Answering Numerical Questions That Check Significant Figures

Numerical questions that check significant figures require you both to calculate the correct answer and to specify that answer using the correct number of significant digits, for example,  $2.3\text{e}4$  to indicate 2 significant digits. The kind of answer that is expected should be clear from the question.

If your instructor has enabled it, the sigfig icon  is displayed beside the answer box for questions that check for significant figures.

If enabled by your instructor, an answer format tip is displayed below the answer box when it is selected and provides information about the form of the answer that is expected. The answer format tip indicates that a number must be specified to the correct number of significant figures, and might also specify whether units are required.

## To answer a numerical question that checks significant figures:

If the question checks for significant figures, type a number with the correct number of significant figures for your answer. The rules WebAssign uses to specify the number of significant figures in a number are standard. They are shown in the examples below:

Rule	Example	Significant Figures
Every non-zero digit is significant.	1234	4
Zeros in between non-zero digits are significant.	101.001 41003	6 5
Zeros at the end of the answer when <i>no</i> decimal point is specified are not significant.	500 13000 140e-001	1 2 2
Zeros at the end of the answer when a decimal point <i>is</i> specified are significant.	500. 5.0e2 2.000 8.20000e3	3 2 4 6



### Note:

- To express a number like 1000 to 2 or 3 significant figures, you must use scientific notation, for example, 1.0e3 or 1.00e3.
- If you are not sure how to determine the correct number of significant figures for a problem, refer to your textbook or ask your instructor.

If it is displayed, you can click the sigfig icon  to list the rules used for significant figures in WebAssign.



**Tip:** If enabled by your instructor, you might receive partial credit if you specify the correct value with more than the required number of significant figures. No credit is awarded if you specify too few significant figures.

## How WebAssign Calculates Significant Figures

Because textbooks and instructors sometimes use different rules for determining significant figures, WebAssign might calculate the “correct” number of significant figures in a different way than you are taught in your class.

Regardless of what your instructor or textbook teaches, you must follow the rules listed here to receive credit for answers that are required to be specified to a certain number of significant figures. If your instructor or textbook teaches significant figures differently than these rules, tell your instructor. Your instructor can turn off significant figure checking for assignments.

## Rules for Significant Figure Calculations in WebAssign

Operation	Rule	Examples
<b>Addition</b>	Use the fewest number of decimal places specified in any of the operands.	$10 + 1 = 10$ $2.46 + 6.1743 = 8.63$
<b>Subtraction</b>	Use the fewest number of decimal places specified in any of the operands.	$10 - 1 = 10$ $3.1415 - 2.2 = 0.9$
<b>Multiplication</b>	Use the fewest number of significant figures specified in any of the operands.	$1530 \times 4.0 = 6100$ $1530 \times 4 = 6000$
<b>Division</b>	Use the fewest number of significant figures specified in any of the operands.	$444 \div 4 = 100$ $444 \div 111 = 4.00$
<b>Exponentiation</b>	Use the same number of significant figures as the base.	$2^{10} = 1e3$ $2.000^{10} = 1024$
<b>Logarithms</b>	Use the same number of <i>decimal places</i> in the result as the number of <i>significant figures</i> in the number you are taking the logarithm of.	$\log_{10}(27) = 1.43$ $\ln(0.026) = -3.65$
<b>Antilogarithms</b>	Use the same number of <i>significant figures</i> in the result as the number of <i>decimal places</i> in the number you are taking the antilogarithm of.	$10^{3.43} = 2700$ $e^{-3.65} = 0.026$

## Answering Answer-Dependent Numerical Questions

Some numerical questions have multiple parts that require you to enter estimated or measured values and then perform calculations based on the values you entered. These questions are often used for lab classes to record the results of an experiment and perform analysis of the data.

For these questions, the answer boxes for analyses are not enabled and are displayed with a gray background until you have entered the required values first.

What is the length  $L$  of your pendulum?  $L =$    $\pm$

What is the amount of time  $t_{20}$  required for your pendulum to go through 20 complete oscillations?  
 $t_{20} =$    $\pm$

What is the period  $T$  of your pendulum?  
 $T =$    $\pm$

Based on the period and length of your pendulum, what is the acceleration of gravity  $g$ ?  
 $g =$    $\pm$

If you click an answer box that is not enabled, a message is displayed indicating that you must complete other answer boxes first.

### To answer answer-dependent numerical questions:

1. Enter the requested values, specifying units or significant figures if required.  
After the required values have been entered, answer boxes for calculations dependent on those values are enabled and are displayed with a white background.

What is the length  $L$  of your pendulum?  $L =$    $\pm$

What is the amount of time  $t_{20}$  required for your pendulum to go through 20 complete oscillations?  
 $t_{20} =$    $\pm$

What is the period  $T$  of your pendulum?  
 $T =$    $\pm$

Based on the period and length of your pendulum, what is the acceleration of gravity  $g$ ?  
 $g =$    $\pm$

2. Enter your calculations in the appropriate answer boxes, specifying units or significant figures if required.  
For these questions, your answers are scored based on the expected range for the question and your analyses are scored based on the values you provided.
  - Your answers are marked correct if they are within the expected range and correctly specify units or significant figures, if required.
 If your answers are not within the expected range, they are marked incorrect; a prompt might also be displayed indicating why the values were not acceptable.
  - Your analyses are marked correct only if your answers are within the expected range and you have performed the calculations correctly, including units and significant figures, if required.
 If your answers are not within the expected range but your calculations were correct for the values you provided, an icon  is displayed to let you know that your procedure was correct; however, no points are awarded unless both the values and the calculations are correct.

### Rounding Values in WebAssign

Some textbooks specify different rules for rounding. Regardless of the rules used in a given textbook, when numeric values are rounded in WebAssign, they are always rounded away from zero if the rounding digit is 5.

This rounding rule is sometimes called “rounding up” but “away from zero” better describes the rule for negative values.

For example:

Original Value	Rounded to	Rounded Value
7.652	tenths place	7.7
7.652	hundredths place	7.65
7.652	two significant figures	7.7

Original Value	Rounded to	Rounded Value
-7.652	tenths place	-7.7
-7.652	hundredths place	-7.65
-7.652	two significant figures	-7.7

 **Note:** In many cases, the default tolerances of  $\pm 2\%$  or  $\pm 1$  at the last significant digit allow you to round differently and be considered correct. Your instructor might have specified different tolerances.

## Answers That Cannot Be Understood

If your answer contains one or more syntax errors that prevent WebAssign from being able to grade it, WebAssign displays the message **Your answer cannot be understood or graded**. Depending on your instructor, answers with syntax errors might be counted as incorrect submissions.

Often, the problem is a simple typographical error that is easy to spot and correct. After correcting the error, submit your answer again.

 **Note:**

- If your answer is not counted as a submission, it is also not stored by WebAssign. This means that after certain actions, like closing and reopening the assignment or submitting an answer for a different question, your answers with syntax errors are no longer displayed in the assignment.
- Copying text from anywhere and pasting it in an answer box will result in an error. You must type your response using the keyboard or the tools provided.

## Common Errors

Some of the most common errors are listed here.

Problem	Incorrect	Correct
Brackets or braces instead of parentheses.	$4*\{x+3\}$	$4*(x+3)$
Unpaired parentheses.	$(1+2)+3)$	$((1+2)+3)$
Missing part of the expression.	$50*$	$50*3$
Too many consecutive operators.	$x++++2$	$x+2$
Unrecognized symbol.	$\$4.00$	$4.00$
	$4\&6$	$4+6$

## Errors Specific to Numerical Questions

The following errors are common in questions that require you to enter a number with or without a unit.

Problem	Incorrect	Correct
Misspelled unit.	3456 met/sec	3456 m/s
Specifying a unit when none is required.   <b>Note:</b> If displayed, check the answer format tip to see if units are required.	3 m	3
Numerical answers cannot contain variables.	$2*x+3$	$2*10+3$
Numerical answers cannot use implicit multiplication.	$3(14)$	$3*14$
Numerical answers must use <b>**</b> to specify exponents.	$2^3$	$2**3$

## Errors Specific to mathPad, calcPad, and physPad Questions

The following errors are common in mathPad, calcPad, or physPad questions, as well as older symbolic questions that require calculator notation.

Problem	Incorrect	Correct
Incorrect variables. Variable names are case-sensitive ( $x$ is not the same as $X$ ).  If the question specifies Greek letters or symbols such as $l$ , do not substitute English letters.	$3X$ $3a$ $3l$	$3x$ $3a$ $3l$
Comma in number.	5,000	5000
Do not use <b>**</b> to specify exponents.	$2**3$	$2^3$ $2^3$   <b>Note:</b> In mathPad, calcPad, or physPad, typing $2^3$ displays $2^3$ .
Do not use uppercase E in scientific notation.	1.2E15	1.2e15

**See Also:**

[Answer Numerical Questions](#) on page 126

[Answer Math Questions with Calculator Notation](#) on page 107

[Answer mathPad Questions](#) on page 111

[Answer calcPad Questions](#) on page 72

[Answer physPad Questions](#) on page 139

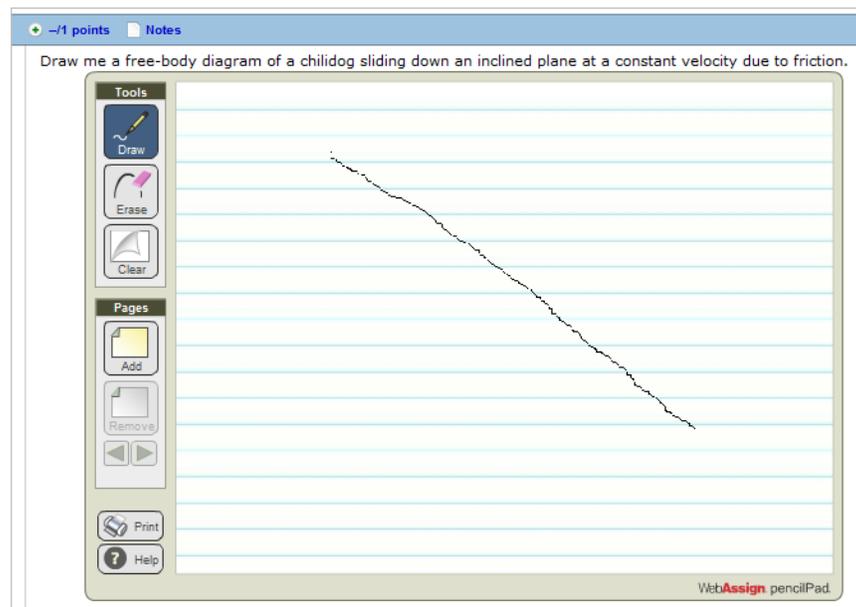
## Answer pencilPad Questions

The pencilPad tool lets you draw or write in your own handwriting using your mouse or a tablet PC. You can show your work, draw diagrams or simply provide more information about how you worked a problem.

**Note:** Adobe® Flash® Player, version 10 or later is required. See [Required Browser Plug-Ins](#) on page x.

### To draw or write using pencilPad:

1. Click the draw tool.  
The pointer is displayed as a pencil.
2. Move the pointer to form the object or words you want in the note pad space.



3. You can do any of the following:
  - Click **Erase** to erase part or all of your drawing or text. The pointer is displayed as an eraser.
  - Click **Clear** to delete everything on the page.
  - Click **Add** to add a new page.
  - Click **Remove** to delete the page.
  - Click the arrows to go to the previous or next page.

- Click **Print** to print all pages of your work.
  - Click **Help** to get help with how to use pencilPad.
4. When you are done, click **Save** or **Submit**. Blank pages are removed.

**See Also:**

[Submit Your Answers](#) on page 45

## Answer physPad® Questions

WebAssign physPad® questions are displayed with a rectangular answer box similar to answer boxes used for other question types, but when you click a physPad®-enabled answer box, the physPad® palette opens, allowing you to answer the question with correctly formatted physics notation.

A light beam traveling in the negative z-direction has a magnetic field  $\vec{B} = (2.93 \times 10^{-9} \hat{x} + -3.27 \times 10^{-9} \hat{y})$  T at a given instant of time. The electric field in the beam has a magnitude of 1.32 N/C at the same time.

Write  $\vec{E}$  in terms of unit vectors.

$\vec{E} =$    $\hat{x}$  N/C

**physPad**

Operations

Symbols

Relations

Sets

Vectors

Trig

Greek

Help

### To answer a physPad® question:

1. Click the answer box to open the tool palette.

**Note:** Don't use the keyboard to navigate to the answer box.

2. Click the tool palette buttons or type to answer the question.
  - Tool palette buttons are organized in expandable groups, such as **Operations** and **Trig**.
  - Some buttons insert placeholder boxes to show you where you can type numbers, variables, or expressions.  
For example, if you insert a fraction, placeholder boxes are displayed for both the numerator and denominator.

The expression is displayed in the answer box as you enter it. If necessary, the answer box becomes larger to fit your answer.

To do this	Do this
Enter variables.	Type the variable name using the case and spelling specified in the question. Variables are automatically italicized.
Enter symbols like $\pi$ or $\infty$ .	Click <b>Symbols</b> and click the symbol.

To do this	Do this
Move the insertion point in the answer box.	Press the HOME, END, and arrow keys.
Move the insertion point into or out of a placeholder box.	Press the arrow keys or use the mouse.  <div style="border: 1px solid black; background-color: #ffffcc; padding: 5px;"> <p><b>Note:</b> Usually the insertion point is automatically moved to a placeholder box when it is created.</p> </div>
Delete a character, the selected expression, or notation such as fractions.	Press BACKSPACE or DELETE.

If you have trouble typing your answer, try using the pad buttons.

**Note:**

- Answers are case-sensitive;  $x$  and  $X$  are not the same.
- Do not type commas in numbers; 5,280 is not correct.
- Use the pad button when entering fractions between commas (for example, fractions in a list). This notation can be typed, but not intuitively. See the examples for details.
- Do not enter mixed numbers, for example,  $2\frac{1}{2}$ . Instead, use decimals or improper fractions.
- When entering scientific notation, always use a lowercase  $e$ , for example,  $1.23e-5$ .
- Unless instructed otherwise, express angles for trigonometric functions in radians.
- Keyboard characters that are not mathematically useful — for example,  $\&$ ,  $@$ , and foreign language characters — are intentionally not displayed when typed. To enter Greek characters, use the buttons or keyboard shortcuts for the tool.
- Do not use function notation — for example,  $f(x)$  — as these answers can't be graded.

**See Also:**

[Submit Your Answers](#) on page 45

[Answers That Cannot Be Understood](#) on page 79

## physPad<sup>®</sup> Reference

You can enter the following notation in physPad<sup>®</sup>.

Notation	Keyboard	Button Group	Button
Decimal numbers	0123456789.		
Fractions	/	Operations	

Notation	Keyboard	Button Group	Button
<b>Variables</b>	Type variables exactly as specified in the question. Variable names are displayed in italics. Variables are case-sensitive. You can't substitute $x$ for $X$ .		
<b>Addition</b>	+		
<b>Subtraction</b>	-		
<b>Multiplication</b>	*		
<b>Division</b>	/		
<b>Parentheses</b>	( The closing parenthesis is added automatically.	<b>Sets</b>	
<b>Set delimiters (braces)</b>	{ The closing brace is added automatically.	<b>Sets</b>	
<b>Closed interval (brackets)</b>	[ $a, b$ The closing bracket is added automatically.	<b>Sets</b>	
<b>Open interval (parentheses)</b>	( $a, b$ The closing parenthesis is added automatically.	<b>Sets</b>	
<b>Half-closed interval (half-open interval)</b>	1. Type [ $a, b$ 2. Press SHIFT + RIGHT ARROW 3. Type )  You can substitute ( or ] as needed.	<b>Sets</b>	 or 
<b>Empty set</b>	empty	<b>Sets</b>	
<b>Union</b>	union	<b>Sets</b>	
<b>Intersection</b>	intersect	<b>Sets</b>	
<b>Square root</b>	sqrt	<b>Operations</b>	
<b>Exponent</b>	^	<b>Operations</b>	
<b>Factorial</b>	$n!$	<b>Operations</b>	

Notation	Keyboard	Button Group	Button
Base or subscript	$n_b$	Operations	
Exponent and subscript of a variable	$n_b$ RIGHT ARROW $^x$	Operations	
$n$ th root		Operations	
Absolute value	abs or   The closing vertical bar is added automatically.	Operations	
Exponential function	$e^$ or exp	Operations	
Natural logarithm	ln	Operations	
Power of 10	$10^$	Operations	
Logarithm (base 10)	log	Operations	
General Log	log_	Operations	
pi	pi	Symbols	
theta	theta	Symbols	
Infinity	infinity	Symbols	
Does not exist	DNE	Symbols	
Undefined	UNDEFINED	Symbols	
Imaginary unit		Symbols	
Script I		Symbols	
Script E		Symbols	
Overline		Symbols	
hbar	hbar	Symbols	
Perpendicular		Symbols	
Parallel		Symbols	
Equal	=	Relations	

Notation	Keyboard	Button Group	Button
Greater than	>	Relations	
Greater than or equal to	>=	Relations	
Less than	<	Relations	
Less than or equal to	<=	Relations	
No solution	NOSOLUTION	Relations	
Sine	sin	Trig	
Cosine	cos	Trig	
Tangent	tan	Trig	
Cosecant	csc	Trig	
Secant	sec	Trig	
Cotangent	cot	Trig	
Inverse sine (arcsine)	sin <sup>-1</sup> or arcsin	Trig	
Inverse cosine (arccosine)	cos <sup>-1</sup> or arccos	Trig	
Inverse tangent (arctangent)	tan <sup>-1</sup> or arctan	Trig	
Inverse cosecant (arccosecant)	csc <sup>-1</sup> or arccsc	Trig	
Inverse secant (arcsecant)	sec <sup>-1</sup> or arcsec	Trig	
Inverse cotangent (arccotangent)	cot <sup>-1</sup> or arccot	Trig	
Hyperbolic sine	sinh	Trig	
Hyperbolic cosine	cosh	Trig	
Hyperbolic tangent	tanh	Trig	
Hyperbolic cosecant	csch	Trig	
Hyperbolic secant	sech	Trig	
Hyperbolic cotangent	coth	Trig	

Notation	Keyboard	Button Group	Button
<b>Inverse hyperbolic sine (area hyperbolic sine)</b>	$\sinh^{-1}$ or $\operatorname{arcsinh}$	<b>Trig</b>	
<b>Inverse hyperbolic cosine (area hyperbolic cosine)</b>	$\cosh^{-1}$ or $\operatorname{arccosh}$	<b>Trig</b>	
<b>Inverse hyperbolic tangent (area hyperbolic tangent)</b>	$\tanh^{-1}$ or $\operatorname{arctanh}$	<b>Trig</b>	
<b>Inverse hyperbolic cosecant (area hyperbolic cosecant)</b>	$\operatorname{csch}^{-1}$ or $\operatorname{arccsch}$	<b>Trig</b>	
<b>Inverse hyperbolic secant (area hyperbolic secant)</b>	$\operatorname{sech}^{-1}$ or $\operatorname{arcsech}$	<b>Trig</b>	
<b>Inverse hyperbolic cotangent (area hyperbolic cotangent)</b>	$\operatorname{coth}^{-1}$ or $\operatorname{arccoth}$	<b>Trig</b>	
<b>Bold vector</b>		<b>Vectors</b>	
<b>Vector bracket</b>		<b>Vectors</b>	
<b>Arrow vector</b>		<b>Vectors</b>	
<b>i unit vector</b>		<b>Vectors</b>	
<b>j unit vector</b>		<b>Vectors</b>	
<b>k unit vector</b>		<b>Vectors</b>	
<b>Unit vector (hat vector)</b>		<b>Vectors</b>	
<b>Lowercase Greek letter</b>	Name of the letter in lowercase, for example, alpha, beta, gamma.	<b>Greek</b>	

Notation	Keyboard	Button Group	Button
<b>Uppercase Greek letter</b>	Capitalized name of the letter, for example, Alpha, Beta, Gamma.	<b>Greek</b>	

### Examples of Physics Notation with physPad®

The following examples illustrate entry of some common expressions.

Expression	Do this	To display this
<b>An expression with numbers and subscripted variables</b>	<ol style="list-style-type: none"> <li>1. Type <b>1/2</b> and press RIGHT ARROW</li> <li>2. Type <b>m_2</b> and press RIGHT ARROW</li> <li>3. Type <b>+4m_3</b></li> </ol>	$\frac{1}{2}$
<b>Set notation with fractions</b>	<ol style="list-style-type: none"> <li>1. Type <b>(1/9</b> and press RIGHT ARROW</li> <li>2. Type <b>,2</b> and press SHIFT + LEFT ARROW to select the 2</li> <li>3. Type <b>/7</b> and press RIGHT ARROW</li> <li>4. Type <b>,3</b> and press SHIFT + LEFT ARROW to select the 3</li> <li>5. Type <b>/5</b></li> </ol>	$(\frac{1}{9}, \frac{2}{7}, \frac{3}{5})$
<b>A square root</b>	<ol style="list-style-type: none"> <li>1. Type <b>sqrt</b> The square root symbol is created.</li> <li>2. Type <b>gh</b></li> </ol>	$\sqrt{gh}$
<b>A cube root</b>	<ol style="list-style-type: none"> <li>1. Click <b>Operations</b> &gt; </li> <li>2. Type <b>3</b> and press RIGHT ARROW</li> <li>3. Type <b>x</b></li> <li>4. Type <b>m_1</b> and press RIGHT ARROW</li> <li>5. Type <b>m_2</b> and press RIGHT ARROW</li> <li>6. Type <b>m_3</b> and press RIGHT ARROW</li> </ol>	$\sqrt[3]{m_1 m_2 m_3}$

Expression	Do this	To display this
An expression involving Euler's number	<ol style="list-style-type: none"> <li>Click <b>Operations</b> &gt; </li> <li>Type 2</li> </ol>	$e^2$
An expression involving hbar ( $\hbar$ )	<ol style="list-style-type: none"> <li>Type 3</li> <li>Click <b>Symbols</b> &gt; </li> <li>Type ^2</li> </ol>	$3\hbar^2$
A vector in hatted i-j-k form	<ol style="list-style-type: none"> <li>Type 5</li> <li>Click <b>Vectors</b> &gt; </li> <li>Type <b>i</b> and press RIGHT ARROW</li> <li>Type <b>+24</b></li> <li>Click <b>Vectors</b> &gt; </li> <li>Type <b>j</b> and press RIGHT ARROW</li> <li>Type <b>+4</b></li> <li>Click <b>Vectors</b> &gt; </li> <li>Type <b>k</b></li> </ol>	$5\hat{i} + 24\hat{j} + 4\hat{k}$
A vector in vector bracket form	<ol style="list-style-type: none"> <li>Click <b>Vectors</b> &gt; </li> <li>Type <b>12, 15, 22</b></li> </ol>	$\langle 12, 15, 22 \rangle$
A vector in bold i-j-k form	<ol style="list-style-type: none"> <li>Type 5</li> <li>Click <b>Vectors</b> &gt; </li> <li>Type <b>+24</b></li> <li>Click <b>Vectors</b> &gt; </li> <li>Type <b>+4</b></li> <li>Click <b>Vectors</b> &gt; </li> </ol>	$5\mathbf{i} + 24\mathbf{j} + 4\mathbf{k}$

### Answer mathPad, calcPad<sup>®</sup>, or physPad<sup>®</sup> Questions on an iPad<sup>®</sup>

It makes no difference to your grade whether you complete your work on an iPad<sup>®</sup> or on another supported platform. However, there are some differences in how you work on the iPad<sup>®</sup>:

- The expression is displayed larger while you are editing it.

- You can't copy or paste parts of the expression.
- Because you can't use arrow keys to navigate in the expression, tap to change your insertion point when needed.

**Tip:**

- Tapping the pad button is usually faster and easier than using the keyboard.
- To prevent the on-screen keyboard from hiding part of the problem or your work, turn your iPad® to work in portrait mode. Also, consider using a split keyboard.

**See Also:**

[Problems Working on iPad](#) on page 206

## Answers That Cannot Be Understood

If your answer contains one or more syntax errors that prevent WebAssign from being able to grade it, WebAssign displays the message **Your answer cannot be understood or graded**. Depending on your instructor, answers with syntax errors might be counted as incorrect submissions.

Often, the problem is a simple typographical error that is easy to spot and correct. After correcting the error, submit your answer again.

**Note:**

- If your answer is not counted as a submission, it is also not stored by WebAssign. This means that after certain actions, like closing and reopening the assignment or submitting an answer for a different question, your answers with syntax errors are no longer displayed in the assignment.
- Copying text from anywhere and pasting it in an answer box will result in an error. You must type your response using the keyboard or the tools provided.

## Common Errors

Some of the most common errors are listed here.

Problem	Incorrect	Correct
Brackets or braces instead of parentheses.	$4*\{x+3\}$	$4*(x+3)$
Unpaired parentheses.	$(1+2)+3)$	$((1+2)+3)$
Missing part of the expression.	$50*$	$50*3$
Too many consecutive operators.	$x+++++2$	$x+2$
Unrecognized symbol.	$\$4.00$ $4\&6$	$4.00$ $4+6$

## Errors Specific to Numerical Questions

The following errors are common in questions that require you to enter a number with or without a unit.

Problem	Incorrect	Correct
Misspelled unit.	3456 met/sec	3456 m/s
Specifying a unit when none is required.	3 m	3
 <b>Note:</b> If displayed, check the answer format tip to see if units are required.		
Numerical answers cannot contain variables.	$2*x+3$	$2*10+3$
Numerical answers cannot use implicit multiplication.	$3(14)$	$3*14$
Numerical answers must use ** to specify exponents.	$2^3$	$2**3$

## Errors Specific to mathPad, calcPad, and physPad Questions

The following errors are common in mathPad, calcPad, or physPad questions, as well as older symbolic questions that require calculator notation.

Problem	Incorrect	Correct
Incorrect variables. Variable names are case-sensitive ( $x$ is not the same as $X$ ). If the question specifies Greek letters or symbols such as $l$ , do not substitute English letters.	$3X$ $3a$ $3l$	$3x$ $3a$ $3l$
Comma in number.	5,000	5000
Do not use ** to specify exponents.	$2**3$	$2^3$ $2^3$
		 <b>Note:</b> In mathPad, calcPad, or physPad, typing $2^3$ displays $2^3$ .
Do not use uppercase E in scientific notation.	1.2E15	1.2e15

**See Also:**

[Answer Numerical Questions](#) on page 126

[Answer Math Questions with Calculator Notation](#) on page 107

[Answer mathPad Questions](#) on page 111

[Answer calcPad Questions](#) on page 72

[Answer physPad Questions](#) on page 139

## Answer Poll Questions

Poll questions gather information. All responses are scored correct. Poll questions can be any type of question.

The screenshot shows two poll questions in a learning management system interface. Each question is displayed in a separate box with a blue header bar. The first question, labeled '1.', asks 'What grade do you expect to receive in this course?' and has five radio button options: A, B, C, D, and F. Below the options are two buttons: 'Submit New Answers To Question 1' and 'Save Work'. The second question, labeled '2.', asks 'What is your favorite color?' and has a text input field. Below the input field are two buttons: 'Submit New Answers To Question 2' and 'Save Work'.

1. +1 points Notes  
What grade do you expect to receive in this course?  
 A  
 B  
 C  
 D  
 F  
Submit New Answers To Question 1 Save Work

2. +1 points Notes  
What is your favorite color?   
Submit New Answers To Question 2 Save Work

### See Also:

[Submit Your Answers](#) on page 45

## Show My Work

Some questions include a final question part labeled Show My Work. Use Show My Work to demonstrate your reasoning or the process you used to answer the question.

For each question, the Show My Work header indicates whether Show My Work is required or optional.



## Upload a File to Show Your Work

You can upload one or more files that explain how you arrived at your answer. You can also open or remove files that you uploaded.

**Note:** Adobe® Flash® Player, version 10 or later is required. See [Required Browser Plug-Ins](#) on page x.

Before uploading a file, prepare it to ensure that it can easily be viewed.

Image files	<ul style="list-style-type: none"> <li>• Use one of the following standard file formats: PNG, GIF, JPG.</li> <li>• Make sure your picture is clear and that your work can easily be read.</li> <li>• Make sure your picture shows all of your work and is not missing anything at the top, bottom, or sides.</li> <li>• Crop your picture so that it shows only your work and nothing else.</li> </ul>
Documents, presentations, or spreadsheets	Use the file format and version specified by your instructor. If your instructor did not specify a file format, consider saving your document in a standard format like PDF to ensure that your instructor can open it.

### To upload a file for Show My Work:

1. In the **Uploaded Files** section of the Show My Work question part, click **Upload File**.  
A file browser window opens.
2. Select the file that you want to upload.
3. Depending on your browser, click either **Open** or **Choose**.  
The file you uploaded is displayed in the Uploaded Files list.



4. Optional: You can open or remove a file that you uploaded.
  - To open a file, click its name in the **Uploaded Files** list. Depending on your browser settings, you might be prompted to save the file or to open it with another application on your computer.
  - To remove a file, click , and then click **OK** to confirm that you want to remove it.

## Display an Image to Show Your Work

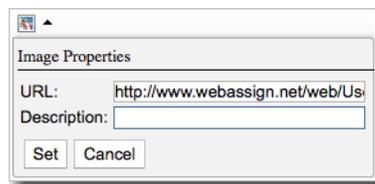
You can insert an image in your work from the Web or from a file that you uploaded by specifying its location.

### To display an image in the Show My Work box:

1. Copy the Web address of the image or uploaded image file.

Browser	Steps
<b>Internet Explorer</b>	<ol style="list-style-type: none"> <li>1. Right-click either the file name of your uploaded file or an image displayed in a Web page and click <b>Properties</b>.</li> <li>2. In the Properties window, select and copy the address.</li> </ol>
<b>Firefox</b>	<ul style="list-style-type: none"> <li>• To copy the address of your uploaded file, right-click the file name and click <b>Copy Link Location</b>.</li> <li>• To copy the address of an image displayed in a Web page, right-click the image and click <b>Copy Image Location</b>.</li> </ul>
<b>Safari</b>	<ul style="list-style-type: none"> <li>• To copy the address of your uploaded file, right-click the file name and click <b>Copy Link</b>.</li> <li>• To copy the address of an image displayed in a Web page, right-click the image and click <b>Copy Image Address</b>.</li> </ul>
<b>Chrome</b>	<ul style="list-style-type: none"> <li>• To copy the address of your uploaded file, right-click the file name and click <b>Copy Link Address</b>.</li> <li>• To copy the address of an image displayed in a Web page, right-click the image and click <b>Copy Image URL</b>.</li> </ul>

2. Click in the Show My Work box where you want to insert the image.
3. Click .
4. Paste the Web address of the image into **URL** and click **OK**.



5. Optional: Type a **Description** of the image.

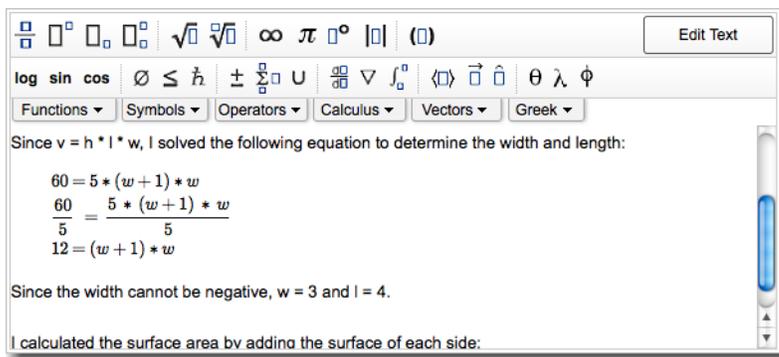
The image is displayed.

## Enter Math Expressions to Show Your Work

You can enter mathematical expressions in your work.

### To enter a mathematical expression:

- In the Show My Work toolbar, click **Insert Math**.  
The toolbar changes to display buttons for entering math expressions.



- Use the keyboard and buttons to enter your math expression.

To do this	Do this
<b>Enter variables.</b>	Type the variable name. Variables are automatically italicized.
<b>Enter lowercase or uppercase Greek letters.</b>	Type a backslash (\) followed by the lowercase or capitalized name of the letter, for example, <code>\delta</code> to insert $\delta$ or <code>\Delta</code> to insert $\Delta$ .
<b>Display or hide additional buttons.</b>	Click <b>Functions</b> , <b>Symbols</b> , <b>Operators</b> , <b>Calculus</b> , <b>Vectors</b> , or <b>Greek</b> .
<b>Move the insertion point.</b>	Press the HOME, END, and arrow keys.
<b>Move to the next part of the expression.</b>	Press TAB.
<b>Move to the previous part of the expression.</b>	Press SHIFT+TAB.
<b>Copy the entire expression.</b>	Press CTRL+C.  <div style="border: 1px solid black; background-color: #ffffcc; padding: 5px;"> <b>Note:</b> You cannot select or copy only part of the expression.                 </div>
<b>Cut the entire expression.</b>	Press CTRL+X.  <div style="border: 1px solid black; background-color: #ffffcc; padding: 5px;"> <b>Note:</b> This removes the entire expression. To undo, press CTRL+V to paste the expression.                 </div>

To do this	Do this
<b>Paste the entire expression.</b>	Press CTRL+V.  ✖ <b>Important:</b> This replaces the entire expression with an expression that you previously cut or copied. There is no undo.
<b>Delete the character to the left of the insertion point, the selected expression, or notation such as fractions.</b>	Press BACKSPACE.
<b>Delete the character to the right of the insertion point, the selected expression, or notation such as fractions.</b>	Press DELETE.
<b>Delete the current part of the expression and its parent — for example, deletes an entire fraction.</b>	Press CTRL+DELETE.

**Note:**

- You cannot select a portion of your math expression to cut, copy, or paste.
- You cannot undo changes in your math expression.

**Examples: Entering Math Notation**

The following examples illustrate entry of some common expressions.

Expression	Do this	To display this
<b>A simple expression with integers</b>	Type $2x+52500$	$2x + 52500$
<b>A polynomial with a fractional coefficient</b>	<ol style="list-style-type: none"> <li>1. Click <math>\frac{\square}{\square}</math></li> <li>2. Type <b>1</b> and press TAB</li> <li>3. Type <b>2</b> and press TAB</li> <li>4. Type <math>x^2</math> and press TAB</li> <li>5. Type <math>+4x+2</math></li> </ol>	$\frac{1}{2}x^2 + 4x + 2$
<b>A simple inequality</b>	<ol style="list-style-type: none"> <li>1. Type <math>x</math></li> <li>2. Click <b>Symbols</b> <math>&gt; \geq</math></li> <li>3. Type <math>-4</math></li> </ol>	$x \geq -4$

Expression	Do this	To display this
<b>A square root</b>	Type <code>sqrt(x</code>	$\sqrt{x}$
<b>A cube root</b>	<ol style="list-style-type: none"> <li>Click </li> <li>Type 3TABx</li> </ol>	$\sqrt[3]{x}$
<b>An expression involving pi and Euler's number</b>	Type <code>\pi+e^2</code>	$\pi + e^2$
<b>The natural logarithm of an absolute value</b>	<ol style="list-style-type: none"> <li>Click <b>Functions &gt; ln</b></li> <li>Type <code> x </code></li> </ol>	$\ln( x )$
<b>A complex number</b>	Type <code>2+3i</code>	$2 + 3i$
<b>A vector in vector bracket form</b>	<ol style="list-style-type: none"> <li>Click </li> <li>Type <code>12,15,22</code></li> </ol>	$\langle 12, 15, 22 \rangle$

### General Math

The following general math notation can be entered in Show My Work boxes.

 **Note:** In addition to the keyboard shortcuts listed in this topic, some symbols can be typed using the keyboard shortcuts for your operating system; for example, you can press ALT+0247 on Windows to type  $\div$ .

Notation	Keyboard	Button	Notes
<b>Decimal number</b>	0123456789.		
<b>Fractions</b>			You cannot use the keyboard.
<b>Mixed Numbers</b>			You cannot use the keyboard.
<b>Addition</b>	+	<b>Operators &gt; +</b>	
<b>Subtraction</b>	-	<b>Operators &gt; -</b>	
<b>Multiplication</b>		<b>Operators &gt; ×</b>	You cannot use the keyboard.
<b>Division</b>		<b>Operators &gt; ÷</b>	You cannot use the keyboard.
<b>Plus or minus</b>		<b>Operators &gt; ±</b>	
<b>Minus or plus</b>		<b>Operators &gt; ∓</b>	
<b>Parentheses</b>	(		A closing parenthesis is automatically inserted.

Notation	Keyboard	Button	Notes
<b>Equal</b>	=	<b>Symbols</b> > =	
<b>Greater than</b>	>	<b>Symbols</b> > >	
<b>Greater than or equal to</b>		<b>Symbols</b> > ≥	You cannot use the keyboard.
<b>Less than</b>	<	<b>Symbols</b> > <	
<b>Less than or equal to</b>		<b>Symbols</b> > ≤	You cannot use the keyboard.
<b>Approximately equal</b>		<b>Symbols</b> > ≈	You cannot use the keyboard.
<b>Not equal</b>		<b>Symbols</b> > ≠	You cannot use the keyboard.
<b>Absolute value</b>	or abs(	□	
<b>pi</b>	\pi	π	
<b>Infinity</b>		∞	You cannot use the keyboard.
<b>Imaginary unit</b>	i	<b>Symbols</b> > <i>i</i>	
<b>Factorial</b>	n!	<b>Functions</b> > □!	
<b>hbar</b>		ħ	You cannot use the keyboard.

### Bases, Exponents, Roots, and Logarithms

The following base, exponent, root, and logarithm notation can be entered in Show My Work boxes.

**Note:** In addition to the keyboard shortcuts listed in this topic, some symbols can be typed using the keyboard shortcuts for your operating system; for example, you can press ALT+0247 on Windows to type ÷.

Notation	Keyboard	Button	Notes
<b>Exponent</b>	^	□ <sup>□</sup>	
<b>Base or subscript</b>	_ (underscore)	□ <sub>□</sub>	
<b>Exponent and subscript of a variable</b>		□ <sup>□</sup> <sub>□</sub>	You cannot use the keyboard.
<b>Square root</b>	sqrt( <i>n</i> )	√□	
<b><i>n</i>th root</b>		√ <sup>□</sup> □	You cannot use the keyboard.

Notation	Keyboard	Button	Notes
Exponential function	$e^n$		
Natural logarithm		<b>Functions &gt; ln</b>	You cannot use the keyboard.
Power of 10	$10^n$		
Logarithm (base 10)		<b>log</b>	You cannot use the keyboard.
General log			You cannot use the keyboard.

### Algebraic Notation

The following algebra notation can be entered in Show My Work boxes.

 **Note:** In addition to the keyboard shortcuts listed in this topic, some symbols can be typed using the keyboard shortcuts for your operating system; for example, you can press ALT+0247 on Windows to type  $\div$ .

Notation	Keyboard	Button	Notes
Variables	Type variables exactly as specified in the question.		Variables are automatically displayed in italics.
Lowercase Greek letter	<code>\Letter_name</code>	<b>Greek &gt; letter</b>	For example, type <code>\alpha</code> , <code>\pi</code> , or <code>\theta</code> .
Uppercase Greek letter	<code>\Letter_name</code>	<b>Greek &gt; letter</b>	For example, type <code>\Delta</code> or <code>\Omega</code> .

### Set and Interval Notation

The following set and interval notation can be entered in Show My Work boxes.

 **Note:** In addition to the keyboard shortcuts listed in this topic, some symbols can be typed using the keyboard shortcuts for your operating system; for example, you can press ALT+0247 on Windows to type  $\div$ .

Notation	Keyboard	Button	Notes
Set delimiters (braces)	$\{a, b\}$		A closing brace is automatically inserted.
Closed interval (brackets)	$[a, b]$		A closing bracket is automatically inserted.
Open interval (parentheses)	$(a, b)$	<b>Symbols &gt; ( )</b>	A closing parenthesis is automatically inserted.

Notation	Keyboard	Button	Notes
Empty set		Operators > $\emptyset$	
Union		Operators > $\cup$	
Intersection		Operators > $\cap$	
Subset		Operators > $\subset$	
Superset		Operators > $\supset$	
Element of		Operators > $\in$	
Not an element of		Operators > $\notin$	

### Trigonometric Functions

The following trigonometric notation can be entered in Show My Work boxes.

**Note:** In addition to the keyboard shortcuts listed in this topic, some symbols can be typed using the keyboard shortcuts for your operating system; for example, you can press ALT+0247 on Windows to type  $\div$ .

Notation	Keyboard	Button	Notes
Degrees		$^{\circ}$	
Sine		Functions > sin	
Cosine		Functions > cos	
Tangent		Functions > tan	
Cosecant		Functions > csc	
Secant		Functions > sec	
Cotangent		Functions > cot	
Inverse sine (arcsine)		Functions > $\sin^{-1}$	
Inverse cosine (arccosine)		Functions > $\cos^{-1}$	
Inverse tangent (arctangent)		Functions > $\tan^{-1}$	
Inverse cosecant (arccosecant)		Functions > $\csc^{-1}$	
Inverse secant (arcsecant)		Functions > $\sec^{-1}$	
Inverse cotangent (arccotangent)		Functions > $\cot^{-1}$	

### Vector Notation

The following vector notation can be entered in Show My Work boxes.

**Note:** In addition to the keyboard shortcuts listed in this topic, some symbols can be typed using the keyboard shortcuts for your operating system; for example, you can press ALT+0247 on Windows to type  $\div$ .

Notation	Keyboard	Button	Notes
<b>Vector bracket</b>		<b>Vectors</b> > 	You cannot use the keyboard.
<b>Arrow vector</b>		<b>Vectors</b> > 	You cannot use the keyboard.
<b>Unit vector (hat vector)</b>		<b>Vectors</b> > 	You cannot use the keyboard.
<b>Cross product</b>		<b>Vectors</b> > ×	You cannot use the keyboard.
<b>Dot product</b>		<b>Vectors</b> > ·	You cannot use the keyboard.

### Calculus

The following calculus notation can be entered in Show My Work boxes.

**Note:** In addition to the keyboard shortcuts listed in this topic, some symbols can be typed using the keyboard shortcuts for your operating system; for example, you can press ALT+0247 on Windows to type ÷.

Notation	Keyboard	Button	Notes
<b>Summation</b>		<b>Operators</b> > 	
<b>Summation with index</b>		<b>Operators</b> > 	
<b>Derivative</b>		<b>Calculus</b> > 	
<b>Partial derivative</b>		<b>Calculus</b> > 	
<b>Del</b>		<b>Calculus</b> > 	
<b>Indefinite integral</b>		<b>Calculus</b> > 	
<b>Definite integral</b>		<b>Calculus</b> > 	
<b>Integral over a region</b>		<b>Calculus</b> > 	
<b>Closed integral</b>		<b>Calculus</b> > 	
<b>Closed integral over a region</b>		<b>Calculus</b> > 	

## View Instructor Comments for Show My Work

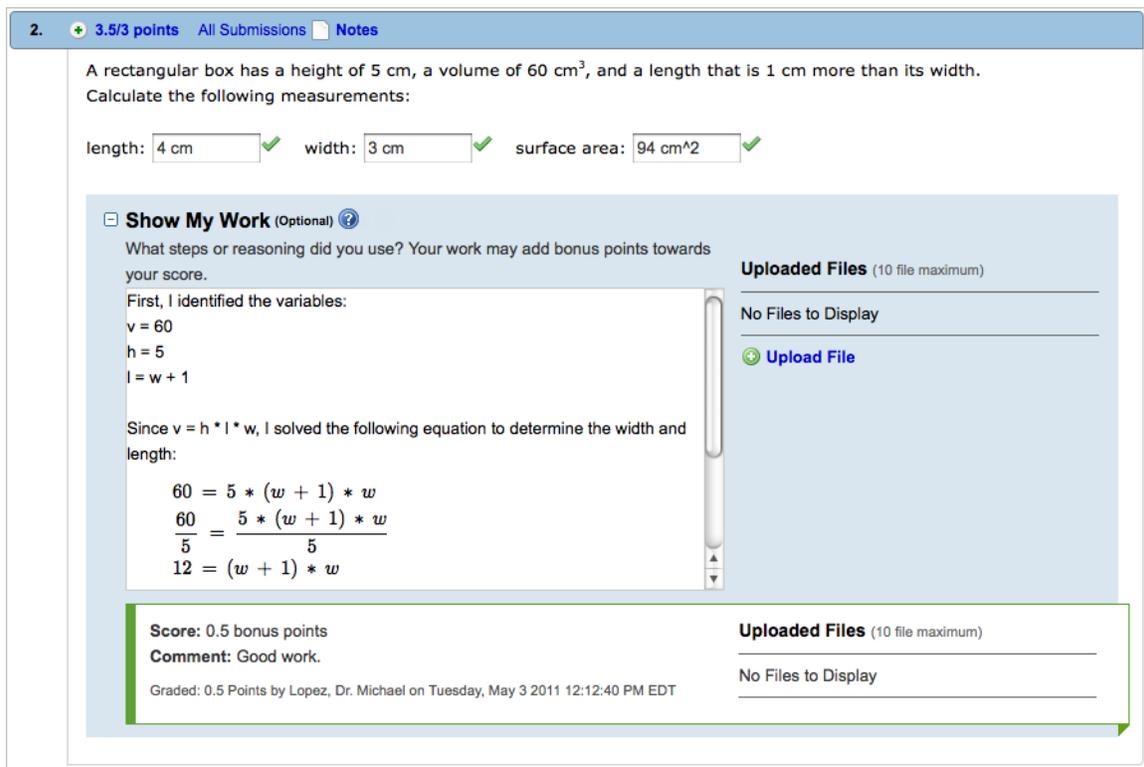
After you show your work on an assignment, your instructor or a TA can change the score or add comments and files to help you better understand the material. Review these comments when studying for a quiz, test, or examination.

1. From your Home or My Assignments page for a class, click the name of an assignment.

Acknowledge any notices or enter the assignment password and click **Continue**.

**Note:** If you have not met a prerequisite for starting the assignment, a faded  is displayed and clicking the assignment name will list the prerequisite instead of opening the assignment. Either complete the listed prerequisite or ask your instructor to waive it for you.

2. Navigate to a Show My Work question part.  
Your instructor's comments and your score for each Show My Work question part are displayed below your answer.



2. + 3.5/3 points All Submissions  Notes

A rectangular box has a height of 5 cm, a volume of  $60 \text{ cm}^3$ , and a length that is 1 cm more than its width. Calculate the following measurements:

length:  ✓ width:  ✓ surface area:  ✓

**Show My Work** (Optional) ?

What steps or reasoning did you use? Your work may add bonus points towards your score.

First, I identified the variables:  
 $v = 60$   
 $h = 5$   
 $l = w + 1$

Since  $v = h * l * w$ , I solved the following equation to determine the width and length:

$$60 = 5 * (w + 1) * w$$

$$\frac{60}{5} = \frac{5 * (w + 1) * w}{5}$$

$$12 = (w + 1) * w$$

**Score:** 0.5 bonus points  
**Comment:** Good work.  
 Graded: 0.5 Points by Lopez, Dr. Michael on Tuesday, May 3 2011 12:12:40 PM EDT

**Uploaded Files** (10 file maximum)  
 No Files to Display  
[Upload File](#)

**Uploaded Files** (10 file maximum)  
 No Files to Display

3. Optional: If your instructor provided any files to help you, click the file name to open the file.

Depending on your browser settings, you might be prompted to save the file or to open it with another application on your computer.



# Scores and Grades

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**This chapter contains the following topics:**

- [View Scores and Grades](#)
- [View Assignment Scoring Details](#)

You can view your scores and grades for previous assignments, as well as the scores you have for assignments you are currently working on.

**See Also:**

[View Your Previous Answers for a Question](#) on page 62  
[Question Feedback](#) on page 58

## View Scores and Grades

On your **My Assignments** page, you see all of your scores for your assignments within WebAssign. You might also see scores for assignments that you took outside of WebAssign.

**Note:** You cannot view scores or grades for a course in WebAssign after the last available date set by your instructor. Often, this date is shortly after the last day of classes.

In addition, your instructor can turn off display of scores and grades in WebAssign or choose to display only certain information.

On the **Grades** page, you see all of your raw scores and grades that your instructor posts.

The page might also include the class average, minimum and maximum scores, the standard deviation, and a histogram of scores for each category of assignment and for individual assignments. It might have your average for each category of assignments as well as the scores for individual assignments. Your instructor will let you know which scores and grades will be posted for your course.

### To see your scores and grades:

1. From the menu bar, click **Grades**.
2. If your instructor enabled all of the options, your **Grades** page might look like this:

Bio 104, Spring 2012

**Grades**

Mary Allen  
 Instructor: Dr. Michael Lopez  
 WebAssign University

Final Score			Class Statistics	
Grade	Total	Possible	Class Average	
A <sup>-</sup>	42.10	47.00	36.45	
Category Scores				
Homework (3)	42.10	47	Maximum	42.10
			Standard Deviation	4.40

Grades were last updated on Jun 13, 2012 at 08:20 AM EDT.

[Raw Scores](#)

The Overall Grade gives information about your grade in the class as calculated from the various categories of assignments, such as Homework, Test, In Class, Quiz, Lab, and Exam. Your instructor might have different categories. You can click the Histogram icon next to the Overall Grade to view a histogram of the grades in the class.

The Category Grades show the contribution to your overall grade from each of the categories. Class Statistics shows you how the rest of the class is doing.

3. To see how a number was calculated, click a grade that is a link.

4. To see a summary of all of your raw scores and the class statistics for each assignment, if your instructor has posted these, click **Raw Scores**.

**See Also:**

[View Assignment Scoring Details](#) on page 163

## View Assignment Scoring Details

After you submit answers for an assignment, you can see your earned and total points for the assignment, for each question, and for each question part.

 **Note:** Your instructor might choose not to display these scores.

### To view scoring details for an assignment:

1. If the assignment for which you want to see scoring details is not already open, then open it.
2. To see how your assignment is scored, read the **Assignment Scoring** rule at the top of the assignment.

There are four ways your assignment can be scored:

- Your last submission is used for your score
- Your best submission for each question part is used for your score
- Your best submission for each entire question is used for your score
- Your best assignment submission is used for your score

Question	1	2	3	4	5	6	Total
Points	-1	1/2	1/1	-1	-4	-4	2/13 (15.4%)

**Current Score :** 2 / 13      **Due :** Thursday, August 25 2011 03:06 PM EDT

[Ask Your Teacher](#)   [Extension Requests](#)   [Print Assignment](#)

**Assignment Submission**  
For this assignment, you submit answers by questions. You are required to use a new randomization after every 2 question submissions.

**Assignment Scoring**  
Your best submission for each question part is used for your score.

3. View the assignment score, a question score, or a question part score in the assignment.
  - The assignment score is displayed at the top of the assignment.
  - The question score is displayed at the top of each question.
  - To see question part scores, click the plus sign  by the question score.

**See Also:**

[View Scores and Grades](#) on page 162

[Open an Assignment](#) on page 41

[Submit Your Answers](#) on page 45

## Assignment Score

The **Current Score** at the top of the assignment displays the number of points you have earned followed by the number of points possible for the assignment.

**Note:** Your instructor might choose not to display the assignment score in the assignment.

Current Score : 10 / 22		Due : Wednesday, June 22 2011 05:00 PM EDT									
<a href="#">Ask Your Teacher</a>		<a href="#">Extension Requests</a>		<a href="#">Print Assignment</a>							
Question	1	2	3	4	5	6	7	8	9	Total	
Points	0/2	2/2	1/2	1/2	2/2	4/6	0/2	-1	-3	10/22 (45.5%)	
	✗	✓	✗		✓						

In this example, a student has earned 10 out of 22 possible points for the assignment.

Your assignment score is also displayed with the percentage of correct answers in the **Total** column after all of the question scores.

## Question Score

The points table at the top of the assignment displays the number of points earned followed by the number of points possible for each question on the assignment.

**Note:** Your instructor might choose not to display question scores in the assignment.

Current Score : 10 / 22		Due : Wednesday, June 22 2011 05:00 PM EDT									
<a href="#">Ask Your Teacher</a>		<a href="#">Extension Requests</a>		<a href="#">Print Assignment</a>							
Question	1	2	3	4	5	6	7	8	9	Total	
Points	0/2	2/2	1/2	1/2	2/2	4/6	0/2	-1	-3	10/22 (45.5%)	
	✗	✓	✗		✓						

In this example, a student has earned 0 out of 2 possible points for question 1, 2 out of 2 possible points for question 2, 1 out of 2 possible points for question 3, and so on.

When you cannot earn any more points, the background of the question score is shaded and an icon is displayed. If no icon is displayed, you can still earn more points for the question.

Display	Meaning
<input type="text" value="-1"/>	The question has not been submitted. You can submit an answer.
<input type="text" value="0/2"/>	The question was submitted, but no points were earned. You can submit a different answer.

Display	Meaning
	The question was submitted and some points were earned. You can submit a different answer.
	The question was submitted and all points were earned. You do not need to submit a different answer.
	The question was submitted and some points were earned. You cannot submit it again; either the due date has passed or you have used all of your submissions.
	The question was submitted, but no points were earned. You cannot submit it again; either the due date has passed or you have used all of your submissions.
	The question has not been submitted. You cannot submit an answer because the due date has passed.
	The question was submitted and some points were earned. The earned points count as extra credit toward your assignment score. You cannot submit it again; either the due date has passed or you have used all of your submissions.

 **Note:** Some icons have different meanings when they are shown as marks beside your answer.

You can click the question number above the score to navigate to the question. Each question's score is also displayed at the top of the question.



### See Also:

[Marks](#) on page 58

## Question Part Score

To see scores for each question part, click the plus sign  in the question heading. The points table at the top of the question displays the number of points earned followed by the number of points possible for each question part.

 **Note:**  
A **question part** is the smallest unit of a question for which you can provide an answer. Some questions have only one question part. Some questions have dozens of question parts.  
Your instructor might choose not to display question part scores in the assignment.

Question Part	1	2	3	4	5	6	7	Total
Points	1/1 ✓	1/1 ✓	0.1/1 ✗	1/1 ✓	0/1 ✗	1/1 ✓	0/1 ✗	4.1/7

Determine whether -1 is a solution of the equation.

$$2\sqrt{3x+4} = \sqrt{9x+13}$$

$$2\sqrt{3(\underline{1}-1)} + 4 \stackrel{?}{=} \sqrt{9(\underline{2}-1) + 13}$$

$$2\sqrt{3(\underline{3}-4)} + 4 \stackrel{?}{=} \sqrt{9(\underline{4}-9) + 13}$$

$$2\sqrt{1} \stackrel{?}{=} \sqrt{5} \text{ (No Response) } \times$$

$$2 \cdot \underline{6} \underline{1} \checkmark = 2$$

$$2 = 2$$

Thus,  $\underline{7}$  (No Response)  $\times$  is the solution.

When you expand the question heading, each question part displays a numbered label corresponding to a question part number in the table.

In this example, a student has earned 1 out of 1 point for question part 1, 1 out of 1 point for question part 2, .1 out of 1 point for question part 3, and so on.

When you cannot earn any more points, the background of the question part score is shaded and an icon is displayed. If no icon is displayed, you can still earn more points for the question part.

Display	Meaning
-/1 <input type="text"/>	The question part has not been submitted. You can submit an answer.
0/2 <input type="text"/>	The question part was submitted, but no points were earned. You can submit a different answer.
1/2 <input type="text"/>	The question part was submitted and some points were earned, for example, if partial credit was awarded for specifying compatible units. You can submit a different answer.
2/2 <input checked="" type="checkbox"/>	The question part was submitted and all points were earned. You do not need to submit a different answer.
1/2 <input checked="" type="checkbox"/>	The question part was submitted and some points were earned, for example, if partial credit was awarded for specifying compatible units. You cannot submit it again; either the due date has passed or you have used all of your submissions.
0/2 <input checked="" type="checkbox"/>	The question part was submitted, but no points were earned. You cannot submit it again; either the due date has passed or you have used all of your submissions.

Display	Meaning
	The question part has not been submitted. You cannot submit an answer because the due date has passed.
	The question part was submitted and some points were earned. The earned points count as extra credit toward your question score. You cannot submit it again; either the due date has passed or you have used all of your submissions.

 **Note:** Some icons have different meanings when they are shown as marks beside your answer.

**See Also:**

[Marks](#) on page 58

## Partial Credit and Extra Credit

You might sometimes receive partial credit or extra credit for an answer.

Some common reasons include:

- Specifying an incorrect numerical answer with a dimensionally correct unit
- Specifying a numerically correct answer with the wrong number of significant figures or decimal places
- Bonus or penalty points set by your instructor for the question, for example, partial credit for attempting a difficult question, or bonus points for answering early

## Manually Graded Questions

Some kinds of questions are graded by your instructor or a teaching assistant. These include pencilPad questions, short-answer questions, essay questions, file-upload questions, and questions for which you must show your work.

For these questions, you will usually receive all the possible points when you first submit your answer, but your instructor or a teaching assistant will grade your answers and determine the actual score after the assignment due date. Your instructor might also provide feedback that you can see below your answer.





# Study Aids

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**This chapter contains the following topics:**

- [eBooks and Resource Materials](#)
- [Practice Another Version](#)
- [Personal Study Plan](#)

Depending on your class, some of the following study tools might be available to help you learn and study your coursework.

## eBooks and Resource Materials

Online textbooks — eBooks — are available for some courses in WebAssign. Your instructor might also have shared additional resource materials, either from the textbook publisher or from other sources.

- Note:** Depending on the class, eBook access might be included with WebAssign access, eBook access might be an optional purchase, or no eBook might be available.

### Open an eBook

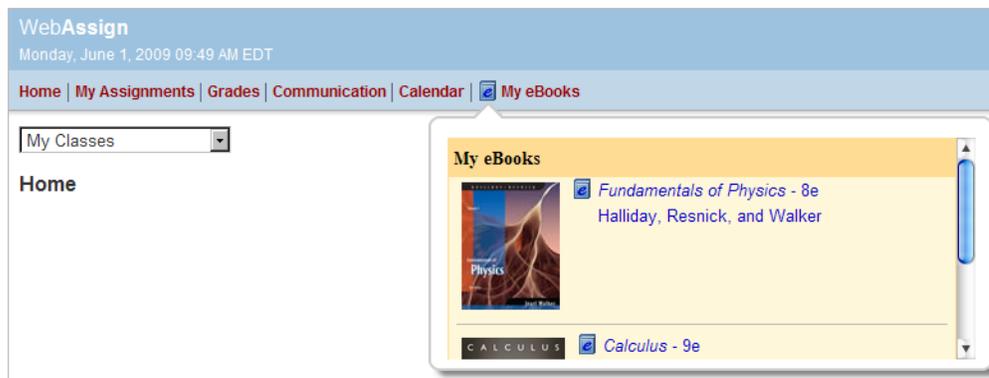
After you have purchased an eBook or WebAssign access for a class that includes an eBook at no additional charge, you can view the eBook whenever you are logged in to WebAssign for the duration of the class.

- Note:** At the publisher's discretion, you might have access to any available eBooks for your class during the grace period.

If an eBook is available for any of your classes, **My eBooks** is displayed in your toolbar in WebAssign.

### To open an eBook you have purchased:

1. Click **My eBooks** to display a list of the eBooks that are available.



2. Click the title of any eBook you have purchased to open it.  
Your eBook opens in a new browser window or tab.

- Tip:** You can also open a purchased eBook by clicking its title when it is displayed on your class Home page. Some assignment questions might also contain links to the relevant sections of the eBook.

### eBook Features

The features and implementation of each eBook is dependent on the publisher. Some eBooks are distributed as Web pages, some are PDF documents, and some

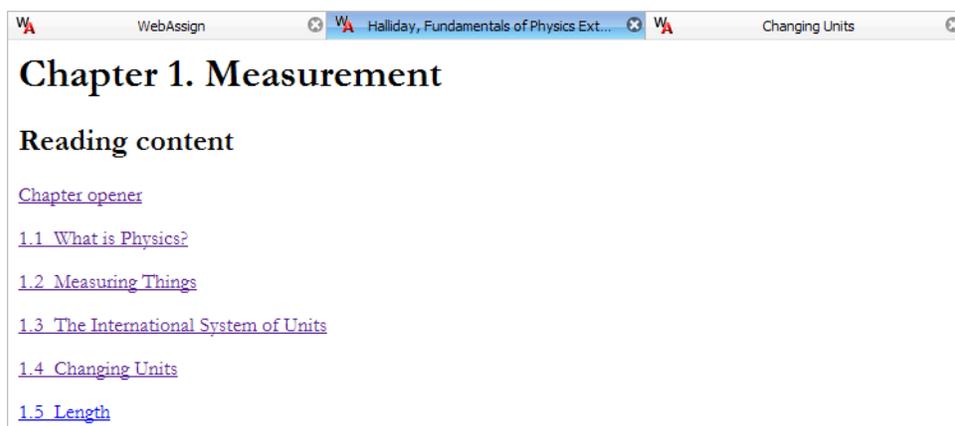
use the free Adobe Flash player. Many eBooks include help information from the publisher that describes how to use the features that are available for that eBook.

Many eBooks share some of the following characteristics:

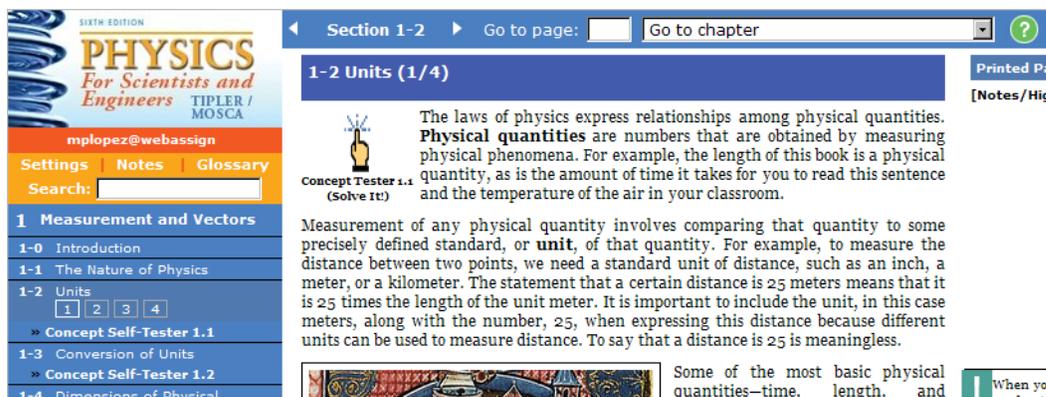
- eBooks generally include the complete text of the printed textbook, along with all figures and illustrations.
- eBooks usually have a table of contents that you can click to navigate to specific chapters or sections.
- You can usually search for text in eBooks.
- You can usually navigate to a specific page number by typing the page number in a text box.
- You can often bookmark pages in the eBook.
- You can often add highlighting and notes to the eBook. Your highlighting and notes are saved between sessions and are available to you anytime when you open the eBook.
- You can usually zoom in and out when viewing the eBook.
- You can sometimes click on links in the eBook which open media such as videos. Some of these additional media are interactive.
- You can usually print pages from the eBook.
- You can sometimes save the eBook to your computer for offline viewing.
- eBooks sometimes require either the free Adobe Reader or the free Adobe Flash Player.
- You can sometimes use an interactive glossary or click on certain terms in the text to view the glossary definition.
- Often the eBook will have a toolbar for navigating the eBook and implementing its various features.

The following three figures illustrate some of the differences among eBooks.

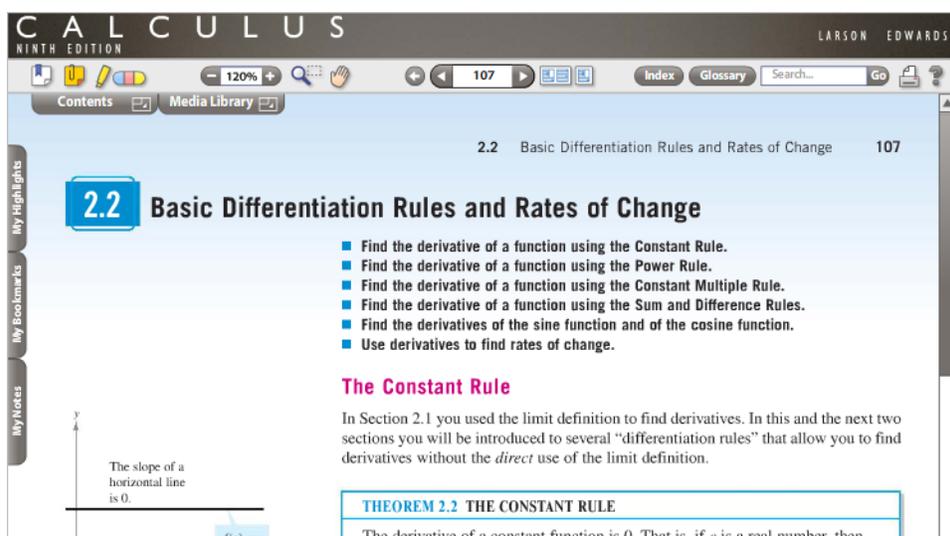
An eBook that opens each section in a separate window or browser tab:



An eBook that includes the navigation, content, search, and other features on a single Web page:



An eBook that uses Adobe Flash to provide features like annotating, bookmarking, and highlighting:



## Close an eBook

When you are finished viewing an eBook, remember to close it.

**Note:** When you log out of WebAssign, all of your open eBooks are automatically closed.

## View Resource Materials

If your instructor has shared resource materials with you in WebAssign, you can view them from your class Home page.

Informational resources provide you with information you need to know about your class. Examples include syllabi, grading rubrics, or instructions for answering questions.

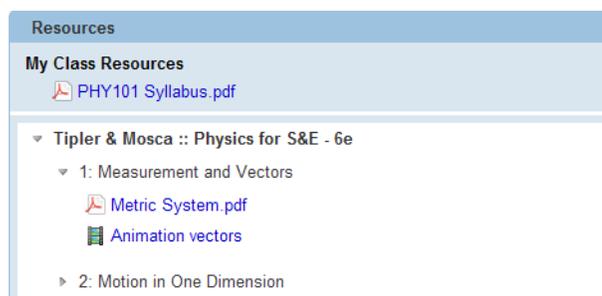
Learning resources help enhance or reinforce your understanding of the course content. Examples include supplemental reading materials, video files to aid in learning a topic, or reference materials such as a table of formulas and constants.

### To view resource materials for a class:

1. Click **Home**.

If necessary, select a class from the **My Classes** menu.

Any resources your instructor has made available to you are displayed on your Home page for your class in the Resources panel.



The list of resources might include sections that can be expanded or collapsed.

- To expand part of the resources list, click the ▶ right arrow icon. The items under the expanded heading are listed.
  - To collapse part of the resources list, click the ▼ down arrow icon. The items under the collapsed heading are no longer displayed.
2. To view a resource, click its title in the Resources panel. Depending on your browser settings, you might have to choose to save or to open the resource. You might also have to choose an application to use when opening the resource.

## Practice Another Version

If enabled, you can click **Practice Another Version** at the bottom of an assignment question to work on a differently randomized version of the question. No credit is awarded for practice questions, but you can use them to test your understanding of the problem.

1. From your Home or My Assignments page for a class, click the name of an assignment.

Acknowledge any notices or enter the assignment password and click **Continue**.

 **Note:** If you have not met a prerequisite for starting the assignment, a faded  is displayed and clicking the assignment name will list the prerequisite instead of opening the assignment. Either complete the listed prerequisite or ask your instructor to waive it for you.

2. In your assignment, click **Practice Another Version** at the bottom of a question.

Depending on the assignment, **Practice Another Version** might be available only after a certain number of submissions, only after the due date, only before the due date, or not at all. **Practice Another Version** is also not available for every question.

A different randomization of the assignment question opens in a new window.

3. Attempt the question and click **Grade This** to see whether you answered correctly.
4. Optional: Show the answer key or try a different randomization.  
You must attempt the question first.

To do this	Do this
<b>Show the answer key</b>	Click <b>Show Answer</b> . For some assignments, this might not be available.
<b>Try a different randomization</b>	Click <b>Try Again</b> .

5. When you are finished, close the Practice Another Version window.

**See Also:**

[Randomization](#) on page 51

[Practice a Topic](#)

## Personal Study Plan

If available, you can use Personal Study Plan practice quizzes and tutorials to review and learn material covered in your textbook, to identify which sections you need to study, and to quiz yourself as many times as you need until you have mastered the material.

The Personal Study Plan is not a generic list of sections in the textbook that you need to study. Instead, it uses short, randomized practice and chapter quizzes to evaluate your knowledge of specific concepts and textbook sections and then suggests tutorial materials that address the specific areas where you are having difficulty. After reviewing the tutorials, you can test yourself again to confirm and reinforce what you learned.

The Personal Study Plan is available only for selected textbooks, and must be enabled by your instructor. Depending on how your instructor set up the Personal Study Plan, you might use it in different ways:

- Personal Study Plan chapter quizzes might be part of your class grade, replacing or in addition to homework assignments in WebAssign.
- Personal Study Plan chapter and practice quizzes are an excellent way to study for tests or examinations.
- A Personal Study Plan might include parts of a textbook that are prerequisites for the current course, so you can brush up on anything that you might have forgotten.

- A Personal Study Plan might include parts of the textbook that cannot be covered in class, so you have an opportunity to study those sections on your own.

## Check If a Personal Study Plan Is Set Up for Your Class

If your instructor has set up a Personal Study Plan for your class, you can access it from your Home page.

### To check if a Personal Study Plan is enabled for your class:

Click **Home**.

If necessary, select a class from the **My Classes** menu.

If a Personal Study Plan is available, the Personal Study Plan panel is displayed on your Home page for the class.

Personal Study Plan - Aufmann :: College Algebra - 7e	
Overview	
0: Preliminary Concepts	—
1: Equations and Inequalities	—
2: Functions and Graphs	—
3: Polynomial and Rational Functions	—
4: Exponential and Logarithmic Functions	—
5: Topics in Analytic Geometry	—
6: Systems of Equations and Inequalities	—
7: Matrices	—
8: Sequences, Series, and Probability	—

### See Also:

[Personal Study Plan Strategies](#) on page 181

[Home Page: Personal Study Plan Panel](#) on page 176

## Check If a Personal Study Plan Is Part of Your Grade

Your instructor should let you know if the Personal Study Plan counts toward your grade.

Usually, this information will be included in the syllabus or a class announcement. Your instructor might also put this information in the description or instructions for the Personal Study Plan that are displayed at the top of the Personal Study Plan Overview page.

**Note:** Do not assume that the Personal Study Plan is not part of your grade just because your instructor neglected to state this in the description or instructions for the Personal Study Plan.

If the Personal Study Plan does count toward your grade, only the average of your scores for Personal Study Plan chapter quizzes is counted. Personal Study Plan practice quizzes do not count toward your grade in WebAssign.

**See Also:**

[Personal Study Plan Strategies](#) on page 181

## Parts of a Personal Study Plan

A Personal Study Plan includes the following parts:

### Personal Study Plan Overview page

The Personal Study Plan Overview page shows you what chapter and practice quizzes you have taken and how you scored. You can take quizzes or see tutorials from here.

### Chapter quizzes

Chapter quizzes test your knowledge of every section of the chapter that your instructor included in the Personal Study Plan. Chapter quizzes might include questions that are more complex than practice quizzes.

When you take a chapter quiz, your scores for questions from each section of the chapter replace the scores of your practice quizzes for that chapter.

 **Note:** If your instructor set up the Personal Study Plan as part of your class grade, your overall score for the Personal Study Plan is the average of all your chapter quiz scores. Only your last chapter quiz scores are counted.

You can take a chapter quiz as many times as you want, with a new set of randomized questions each time.

### Practice quizzes

Practice quizzes test your knowledge of one chapter section at a time, and do not count toward your grade in WebAssign. Practice quiz questions might be simpler than chapter quiz questions; if you are learning the material for the first time, or are not confident about the material, start by taking a practice quiz.

You can take a practice quiz as many times as you want, with a new set of randomized questions each time. Your instructor can view scores for both practice and chapter quizzes. This helps your instructor know if there are subject areas for which either you or the class as a whole might benefit from additional instruction.

### Tutorial materials

Tutorial materials might include videos, interactive examples, or reading material, depending on your textbook. After you have taken a chapter or practice quiz, the tutorial materials that relate to questions you missed for the section are listed as suggestions.

## Home Page: Personal Study Plan Panel

The Personal Study Plan panel on your Home page displays the chapters included in the Personal Study Plan and your most recent chapter quiz scores.

To view this panel, click **Home**. If necessary, select a class from the **My Classes** menu.

The Personal Study Plan panel is displayed only when a Personal Study Plan is set up for your class.

Personal Study Plan - Aufmann :: College Algebra - 7e	
<b>Overview</b>	
0: Preliminary Concepts	—
1: Equations and Inequalities	—
2: Functions and Graphs	—
3: Polynomial and Rational Functions	—
4: Exponential and Logarithmic Functions	—
5: Topics in Analytic Geometry	—
6: Systems of Equations and Inequalities	—
7: Matrices	—
8: Sequences, Series, and Probability	—

Item	Description
<b>Personal Study Plan - textbook name</b>	The title of the Personal Study Plan panel displays the name of the textbook for the Personal Study Plan. If your class uses more than one textbook with an enabled Personal Study Plan, a separate Personal Study Plan panel is displayed for each textbook.
<b>Overview</b>	Click <b>Overview</b> to open the Personal Study Plan Overview page.
<b>Chapter name</b>	The Personal Study Plan panel lists each chapter in the Personal Study Plan. Click a chapter title to open the Personal Study Plan Overview page with that chapter expanded.
<b>Score</b>	Your latest score for each chapter quiz is displayed for each chapter.

**See Also:**

[Personal Study Plan Overview Page](#) on page 177

**Personal Study Plan Overview Page**

The Personal Study Plan Overview page displays all the chapters and sections included in the Personal Study Plan, your most recent Personal Study Plan quiz scores, and links to take Personal Study Plan quizzes or view tutorial materials.



**Note:** From a Personal Study Plan chapter or practice quiz, or from the Personal Study Plan Tutorial page, you can click either **Overview** or **Personal Study Plan** to view the Personal Study Plan Overview page.

You can access the Personal Study Plan Overview page only when a Personal Study Plan is set up for your class.

 1: Operations	 <a href="#">Chapter Quiz</a> <input type="text" value="Not Attempted"/>
1.1: Order of operations	<a href="#">Practice Quiz</a> <input type="text" value="0%"/> <a href="#">Tutorial</a>
1.2: Exponents, Logarithms	<a href="#">Practice Quiz</a> <input type="text" value="Not Attempted"/> <a href="#">Tutorial</a>
1.3: Fractions, ratios, percentages	<a href="#">Practice Quiz</a> <input type="text" value="40%"/> <a href="#">Tutorial</a>
1.4: Volume and area calculations	<a href="#">Practice Quiz</a> <input type="text" value="Not Attempted"/> <a href="#">Tutorial</a>
1.5: Scientific Notation	<a href="#">Practice Quiz</a> <input type="text" value="Not Attempted"/> <a href="#">Tutorial</a>
1.6: Averaging	<a href="#">Practice Quiz</a> <input type="text" value="50%"/> <a href="#">Tutorial</a>
 2: Equations	 <a href="#">Chapter Quiz</a> <input type="text" value="Not Attempted"/>
 3: Graphs	 <a href="#">Chapter Quiz</a> <input type="text" value="Not Attempted"/>

Item	Description
<b>Textbook name</b>	Displays the name of the textbook for the Personal Study Plan. If your class uses more than one textbook with an enabled Personal Study Plan, each textbook's Personal Study Plan will open its own Personal Study Plan Overview page.
	Opens the WebAssign Student Help System in a new window and displays information about using Personal Study Plans.
<b>About</b>	Displays information about the Personal Study Plan. Your instructor can customize this information.
<b>Instructions</b>	Displays instructions for using the Personal Study Plan. Your instructor can customize this information.
	Expands a chapter to show section-level information.
	Collapses a chapter to hide section-level information.
<b>Chapter name</b>	Identifies a chapter included in the Personal Study Plan. Your instructor might have configured the Personal Study Plan not to include every chapter in the textbook.
	Identifies a section that your instructor has marked as a key concept. What your instructor means when they flag a section as a key concept might vary, but the intent is that you should pay special attention to this section.
<b>Section name</b>	Identifies a section included in the Personal Study Plan. Your instructor might have configured the Personal Study Plan not to include every section in the chapter.
<b>Chapter Quiz</b>	Opens a Personal Study Plan chapter quiz.
<b>Practice Quiz</b>	Opens a Personal Study Plan practice quiz.

Item	Description
<b>Progress bar with score</b>	<p>Your scores for chapter and practice quizzes are shown in progress bars that indicate your performance in relation to the mastery levels set by your instructor.</p> <ul style="list-style-type: none"> <li>• Green indicates that the score equals or exceeds the mastery level.</li> <li>• Yellow indicates that the score is at least 75% of the mastery level.</li> <li>• Red indicates that the score is less than 75% of the mastery level.</li> </ul> <p> <b>Note:</b> Only your most recent scores are shown. If you took a chapter quiz more recently than a practice quiz in that chapter, the practice quiz score reflects your score for questions on the chapter quiz that relate to that section.</p>
<b>Tutorial</b>	Opens the Personal Study Plan Tutorial page, which lists tutorial materials for the section.

**See Also:**

[Home Page: Personal Study Plan Panel](#) on page 176

[Personal Study Plan Tutorial Page](#) on page 179

**Personal Study Plan Tutorial Page**

The Personal Study Plan Tutorial page displays tutorial materials for a specific section of the Personal Study Plan.

 **Note:** From a Personal Study Plan chapter or practice quiz, or from the Personal Study Plan Overview page, you can click **Tutorial** to view the Personal Study Plan Tutorial page.

You can access the Personal Study Plan Tutorial page only when a Personal Study Plan is set up for your class.

Tutorial - Order of operations of real numbers with exponents and absolute values

1. AlgRev1 1.1.001.SA

*This question has several parts that must be completed sequentially. If you skip a part of the question, you will not receive any points for the skipped part, and you will not be able to come back to the skipped part.*

Tutorial Exercise

Simplify.

$$\frac{[13 + (-5 + 1)^2] - 20}{|-2 - 1|}$$

[Click here to begin!](#)

Grade This
Show Answer
Try Again

Click **Grade This** after you answer a question, and then click **Show Answer**. After answering all question parts, you can click **Try Again**.

Item	Description
<b>Textbook name</b>	Displays the name of the textbook for the Personal Study Plan.
<b>Chapter name</b>	Identifies the chapter for which you are viewing tutorials.
<b>Section name</b>	Identifies the section for which you are viewing tutorials.
<b>Chapter Quiz</b>	Opens a Personal Study Plan chapter quiz.
<b>Practice Quiz</b>	Opens a Personal Study Plan practice quiz.
<b>Progress bar with score</b>	<p>Your scores for chapter and practice quizzes are shown in progress bars that indicate your performance in relation to the mastery levels set by your instructor.</p> <ul style="list-style-type: none"> <li>• Green indicates that the score equals or exceeds the mastery level.</li> <li>• Yellow indicates that the score is at least 75% of the mastery level.</li> <li>• Red indicates that the score is less than 75% of the mastery level.</li> </ul> <p> <b>Note:</b> Only your most recent scores are shown. If you took a chapter quiz more recently than a practice quiz in that chapter, the practice quiz score reflects your score for questions on the chapter quiz that relate to that section.</p>
<b>Suggestions</b>	Lists tutorial materials that relate to questions you missed on either the chapter or practice quiz. See <a href="#">Kinds of Tutorial Materials</a> on page 180.
	Shows the number of students who rated a tutorial as helpful.
	Shows the number of students who rated a tutorial as not helpful.
<b>Rate This</b>	Opens the feedback window for you to rate a tutorial as helpful or not.
<b>Additional Resources</b>	Lists other tutorial materials that are available for the section. See <a href="#">Kinds of Tutorial Materials</a> on page 180.
<b>Overview</b>	Opens the Personal Study Plan Overview page.

## Kinds of Tutorial Materials

Tutorial materials might include videos, interactive examples, or reading material, depending on your textbook. After you have taken a chapter or practice quiz, the tutorial materials that relate to questions you missed for the section are listed as suggestions.

 **Note:** Adobe® Flash® Player, version 10 or later is required. See [Required Browser Plug-Ins](#) on page x.

Some common kinds of tutorial materials are listed below.

Icon	Description
	Flash paper (typically for reading text)
	Video

Icon	Description
	Audio recording
	Interactive tutorial (might not be in Flash)
	PDF

**See Also:**

[Personal Study Plan Overview Page](#) on page 177

## Personal Study Plan Strategies

Depending on how the Personal Study Plan is set up and your personal objectives, you might work through the Personal Study Plan in different ways.

To do this	Do this
Refresh your mastery of topics that you learned before	<ol style="list-style-type: none"> <li>1. Start by taking the chapter quiz.</li> <li>2. Review your results for each section and identify any sections you need to work on.</li> <li>3. If needed, use the tutorials to brush up on specific topics.</li> <li>4. Take practice quizzes until you master each section.</li> <li>5. Take the chapter quiz to confirm your mastery of the entire chapter.</li> </ol>
Practice new topics as they are taught	<ol style="list-style-type: none"> <li>1. Take the practice quiz for each section immediately after learning the material.</li> <li>2. If needed, use the tutorials to brush up on specific topics.</li> <li>3. Take the practice quiz again before class in case you need to ask questions about something you don't understand.</li> <li>4. At the end of each chapter, take the chapter quiz to confirm your mastery of the entire chapter.</li> </ol>
Review for an upcoming test or examination	<ol style="list-style-type: none"> <li>1. Start by taking the chapter quiz.</li> <li>2. Review your results for each section and identify any sections you need to work on.</li> <li>3. If needed, use the tutorials to brush up on specific topics.</li> <li>4. Take practice quizzes until you master each section.</li> <li>5. Take the chapter quiz to confirm your mastery of the entire chapter.</li> </ol>

To do this	Do this
Demonstrate your mastery of the material	<ol style="list-style-type: none"> <li>1. Take the chapter quiz to demonstrate your mastery of the entire chapter.</li> <li>2. Review your results for each section and identify any sections you need to work on.</li> <li>3. If needed, use the tutorials to brush up on specific topics.</li> <li>4. Take practice quizzes until you master each section.</li> <li>5. Take the chapter quiz again to improve your score.</li> </ol>

**See Also:**

[Check If a Personal Study Plan Is Set Up for Your Class](#) on page 175

[Check If a Personal Study Plan Is Part of Your Grade](#) on page 175

[Take a Personal Study Plan Quiz](#) on page 182

[Review Your Personal Study Plan Scores](#) on page 184

[View a Personal Study Plan Tutorial](#) on page 184

[Rate a Personal Study Plan Tutorial](#) on page 185

## Take a Personal Study Plan Quiz

You can take Personal Study Plan chapter and practice quizzes to test or demonstrate your knowledge or to identify areas where you could benefit from additional study or instruction.

### Chapter quizzes

Chapter quizzes test your knowledge of every section of the chapter that your instructor included in the Personal Study Plan. Chapter quizzes might include questions that are more complex than practice quizzes.

When you take a chapter quiz, your scores for questions from each section of the chapter replace the scores of your practice quizzes for that chapter.

 **Note:** If your instructor set up the Personal Study Plan as part of your class grade, your overall score for the Personal Study Plan is the average of all your chapter quiz scores. Only your last chapter quiz scores are counted.

You can take a chapter quiz as many times as you want, with a new set of randomized questions each time.

### Practice quizzes

Practice quizzes test your knowledge of one chapter section at a time, and do not count toward your grade in WebAssign. Practice quiz questions might be simpler than chapter quiz questions; if you are learning the material for the first time, or are not confident about the material, start by taking a practice quiz.

You can take a practice quiz as many times as you want, with a new set of randomized questions each time. Your instructor can view scores for both practice and chapter quizzes. This helps your instructor know if there are subject areas for which either you or the class as a whole might benefit from additional instruction.

## To take a Personal Study Plan practice or chapter quiz:

1. Click **Home**.

If necessary, select a class from the **My Classes** menu.

If a Personal Study Plan is available, the Personal Study Plan panel is displayed on your Home page for the class.

2. In the Personal Study Plan panel, click **Overview** or a chapter title.

The Personal Study Plan Overview page opens. If you clicked a chapter title, that chapter is expanded and lists the sections of the chapter that are included in the Personal Study Plan.

3. Read the instructions for the Personal Study Plan.

The instructions might provide information about how your instructor wants you to use the Personal Study Plan or if chapter quizzes count toward your grade.

 **Note:** Do not assume that the Personal Study Plan is not part of your grade just because your instructor neglected to state this in the description or instructions for the Personal Study Plan.

4. If needed, click  to expand the chapter you want to study.

5. Beside the chapter or section for which you want to take a quiz, click either **Chapter Quiz** or **Practice Quiz**.

The chapter or practice quiz opens.

6. Answer the questions to the best of your ability.

 **Note:** After submitting your responses to a quiz, you can only review your question responses while you are in the current session. Your question responses are not saved and you cannot review them in a later session.

7. Click **Submit All Questions**.

The quiz score is displayed at the top of the quiz in the Quiz Results section, along with your first and best scores.

You can review which of your answers were correct and which were not. If available, you can use Practice Another Version or tutorial links to work on specific questions.

- Click **Overview** to go back to the Personal Study Plan Overview page.
- Click **Tutorial** to open the Tutorial page and use online resources to learn the relevant material before you retake the quiz.
- Click **Retake Quiz** to retake the quiz with different randomized values.

### See Also:

[Personal Study Plan Strategies](#) on page 181

[Check If a Personal Study Plan Is Part of Your Grade](#) on page 175

[Personal Study Plan Overview Page](#) on page 177

## Review Your Personal Study Plan Scores

You can review your scores for chapter and practice quizzes on a Personal Study Plan.

You might want to review your scores to see which sections you need to study, or to calculate your overall score for the Personal Study Plan, if it is part of your grade.

### To view your scores for a Personal Study Plan:

1. Click **Home**.

If necessary, select a class from the **My Classes** menu.

If a Personal Study Plan is available, the Personal Study Plan panel is displayed on your Home page for the class.

2. In the Personal Study Plan panel, click **Overview** or a chapter title.

The Personal Study Plan Overview page opens. If you clicked a chapter title, that chapter is expanded and lists the sections of the chapter that are included in the Personal Study Plan.

3. If needed, click  to view practice quiz scores for a chapter.

Your scores are displayed on the Personal Study Plan Overview page.

 **Note:** Only your most recent scores are shown. If you took a chapter quiz more recently than a practice quiz in that chapter, the practice quiz score reflects your score for questions on the chapter quiz that relate to that section.

If the Personal Study Plan is part of your grade, you can calculate your overall Personal Study Plan score by averaging your chapter quiz scores. Add up all of your chapter quiz scores and then divide by the number of chapter quizzes. The weight of the Personal Study Plan toward your final grade is determined by your instructor.

#### See Also:

[Personal Study Plan Strategies](#) on page 181

[Personal Study Plan Overview Page](#) on page 177

## View a Personal Study Plan Tutorial

You can view tutorial materials for every section of the textbook included in a Personal Study Plan.

Tutorial materials might include videos, interactive examples, or reading material, depending on your textbook. After you have taken a chapter or practice quiz, the tutorial materials that relate to questions you missed for the section are listed as suggestions.

These materials are displayed for one reason only: to give you the supporting learning material you need to be successful in the course. The more you use them, the more you learn.

## To view a tutorial for a Personal Study Plan:

1. Click **Home**.  
If necessary, select a class from the **My Classes** menu.  
If a Personal Study Plan is available, the Personal Study Plan panel is displayed on your Home page for the class.
2. In the Personal Study Plan panel, click **Overview** or a chapter title.  
The Personal Study Plan Overview page opens. If you clicked a chapter title, that chapter is expanded and lists the sections of the chapter that are included in the Personal Study Plan.
3. If needed, click  to view the sections included in a chapter.
4. Click **Tutorial** to the right of the progress bar for any section.  
The Personal Study Plan Tutorial page opens.
5. Click the link for the tutorial that you want to view.

The tutorial opens.

 **Note:** Adobe® Flash® Player, version 10 or later is required. See [Required Browser Plug-Ins](#) on page x.

After you have finished using the tutorial, close it. You might be asked to rate the tutorial; rating tutorial materials is optional, and your rating is not shared with your instructor.

### See Also:

[Personal Study Plan Strategies](#) on page 181  
[Rate a Personal Study Plan Tutorial](#) on page 185  
[Personal Study Plan Tutorial Page](#) on page 179

## Rate a Personal Study Plan Tutorial

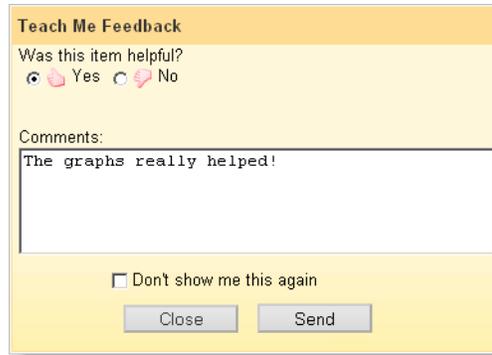
After viewing a tutorial, you can rate it as helpful or not. Rating tutorial resources is optional, but the aggregate ratings are displayed on the Personal Study Plan Tutorial page and can help other students know which tutorials they should use.

Before you can rate tutorials for a Personal Study Plan, you must have viewed at least one of the plan's tutorials.

Your ratings of tutorial resources are not shared with your instructor, and are not displayed individually to your fellow students. Instead, they are aggregated with other students' ratings. You can rate each tutorial only once.

## To rate a tutorial:

1. View a tutorial. When you are finished, close the tutorial.  
Unless you have previously rated a tutorial and selected **Don't show me this again**, a feedback window is displayed.



The image shows a 'Teach Me Feedback' dialog box. It has a yellow header with the title 'Teach Me Feedback'. Below the header, it asks 'Was this item helpful?' and provides two radio button options: 'Yes' (with a thumbs up icon) and 'No' (with a thumbs down icon). The 'Yes' option is selected. Below the radio buttons is a text area labeled 'Comments:' containing the text 'The graphs really helped!'. At the bottom of the dialog, there is a checkbox labeled 'Don't show me this again' which is currently unchecked. Below the checkbox are two buttons: 'Close' and 'Send'.

2. If the feedback window is not displayed, click **Rate This** on the Personal Study Plan Tutorial page for the tutorial you want to rate.  
**Rate This** is not displayed for tutorials that you have already rated.
3. In the feedback window, rate the tutorial and optionally add a comment.
  - If the tutorial was helpful, select **Yes**.
  - If the tutorial was not helpful, select **No**.
4. If you do not want to see the feedback window when you close Personal Study Plan tutorials in the future, select **Don't show me this again**.
5. Click **Send** to submit your rating.

**See Also:**

[Personal Study Plan Strategies](#) on page 181  
[View a Personal Study Plan Tutorial](#) on page 184  
[Personal Study Plan Tutorial Page](#) on page 179  
[Personal Study Plan Tutorial Page](#) on page 179

# 9

## Instructor Assistance

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### This chapter contains the following topics:

- [Send Your Teacher a Private Message](#)
- [Ask Your Teacher for Help With a Question](#)
- [Ask for More Time or Submissions](#)

In addition to the usual help provided by your school, such as tutoring by teaching assistants and consultation with your instructor, you can also communicate with your instructor through WebAssign.

By default, you can:

- Send private messages to your instructor
- Send Ask Your Teacher messages about questions on your assignments
- Request more time to complete an assignment

Your instructor can turn off any of these features in WebAssign.

 **Note:** If asking your instructor about a particular assignment question, refer to the question using the question name rather than number. This is because the questions on your assignment are often different from your classmates' assignments, or listed in a different order.

The question name is displayed on the right side of the question header. Question names might not be shown for some questions or assignments.

## Send Your Teacher a Private Message

A private message is a message that you can send to your instructor. The message might also be delivered to someone the instructor designated to read and respond to them, such as a Teaching Assistant.

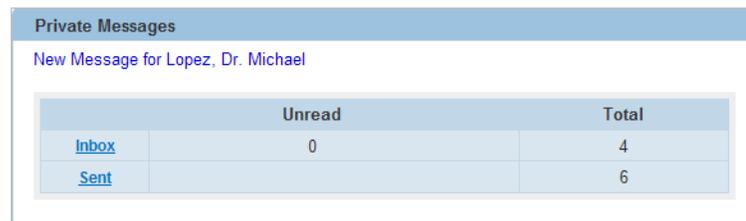
You can send these messages from your Communication page in WebAssign. The instructor knows that the message came from you, and he or she knows which class the message is about.

This feature is displayed as a “New Message For” link in the Private Messages section of your Communication page.

If the link is not displayed and you want to have the option to send your instructor messages from this location, ask your instructor to enable private messages in WebAssign.

### To send a private message:

1. Select a class from the My Classes drop-down menu.
2. From the menu bar, click **Communication**.
3. Under Private Messages, click **New Message for** *name* where *name* is the name of your instructor.



	Unread	Total
<a href="#">Inbox</a>	0	4
<a href="#">Sent</a>		6

4. Enter a subject and your message, and click **Send**.

You are returned to your Communication page, and the message is added to your Sent total. You can click the **Sent** link to view message details.

## Ask Your Teacher for Help With a Question

You can send an Ask Your Teacher message to your instructor for any assignment question.

**Note:** Ask Your Teacher messages go only to authorized instructors and TAs for your class. If you are having a problem with WebAssign, contact WebAssign Customer Support.

You can't send Ask Your Teacher messages if your instructor turned off the Ask Your Teacher feature for your class or if your assignment was opened with LockDown Browser.

## To send an Ask Your Teacher message about a question on your assignment:

1. Click **Ask Your Teacher** in the question header.
2. Type your message.  
Provide as much detail as you can so your instructor can give you useful advice. Enter any specific concerns you might have.
3. Click **Send**.

Your message is sent to your instructor and an icon  is displayed in the question header.

Your instructor will be notified about your message when she logs in to WebAssign. She might choose not to reply to your message, or might prefer to answer you in person.

If your instructor believes the question itself is not working correctly, she can report a question error to WebAssign.

### ★ **Best Practice:**

- Be prompt. If you have a question, don't wait until the last minute to ask.
- Be patient. Your instructor is probably not logged in to WebAssign 24/7, just waiting for you to ask a question.
- Be flexible. If your instructor prefers that you ask questions during office hours or in class, respect that choice.

 **Note:** Ask Your Teacher will behave differently for class sections created before June 4, 2014.

### **See Also:**

[WebAssign Customer Support](#) on page 216

[Questions](#) on page 65

[Work on an Assignment with LockDown Browser](#) on page 43

## Receive Email Notifications for Ask Your Teacher Replies

You can turn on email notifications to let you know when your instructor responds to your Ask Your Teacher messages.

 **Note:** You need a valid email address to receive notifications.

## To turn on email notifications for Ask Your Teacher replies:

1. Click **Notifications** in the menu bar.
2. On the Settings tab, select **answers an Ask Your Teacher message**.
3. Click **Save**.

A warning is displayed if you do not have a verified email address in WebAssign.

4. Click the **Notification Contact Info** tab and verify that your email address is correct.

To update your email address:

- a) Click **edit**.
- b) Type your **New Email Address**.
- c) Type your **Password**.
- d) Click **Save**.
- e) Check your email for the new email address.
- f) Open the message from support@webassign.net with the subject "Your WebAssign Email Address".
- g) Click the link in the email or paste it into your browser's address bar. If necessary, log into WebAssign.

Your email address is updated in WebAssign.

## View Replies to Ask Your Teacher Messages

After your instructor replies to an Ask Your Teacher message, you can view the reply in the assignment.

New replies are not shown until you refresh the assignment page.

 **Tip:** An icon  is shown beside the assignment on your home page when you have an unread reply to an Ask Your Teacher message.

### To view replies to your Ask Your Teacher messages:

1. Open the assignment and navigate to the question for which you sent an Ask Your Teacher message.

An icon is shown in the header of each question for which you sent an Ask Your Teacher message.

Icon	Meaning
	You do not have any unread replies.
	You have at least one unread reply.

2. Click **Ask Your Teacher** in the question header to read your message and any replies.

If needed, you can send another message to your instructor.

## Ask for More Time or Submissions

If your instructor allows you to request more time or more submissions for an assignment, an Extension Request link is displayed in the assignment.

Your instructor can allow automatic or manual extension requests for all assignments, for some assignment categories, or for no assignments.

**Note:** Only your instructor can give you extensions, change your score, allow extra submissions, or help you with the content of your assignments — not the WebAssign Customer Support staff.

## Ask Your Instructor for an Extension

Your instructor might let you ask for a manual extension of the due date for some assignments in WebAssign. If so, your instructor will review your request and decide whether or not to give you more time.

**Important:** Late work usually has consequences. Your instructor might penalize your assignment score when granting an extension.

### To make a manual extension request, if allowed:

1. While working on your assignment, click **Extension Request**.
2. Click the **Manual** tab.
3. Enter your message and click **Submit**.

Your instructor will review your request and can choose to approve it, deny it, or request additional information from you before making a decision.

**Extension Request** [Close this window](#)

Intro to Physics, section 1, Spring 2009  
Assignment 2

**Automatic** **Manual**

Message to Instructor:

I am requesting an extension until 4/4.  
The reason for my request is, I had appendicitis and was hospitalized until yesterday.

**Submit** **Cancel**

## Check the Status of Your Extension Request

After you ask your instructor for an extension, check WebAssign to see if your request has been granted.

### To check the status of your extension request:

1. While working on your assignment, click **Extension Request**.

Any responses your instructor has made to your request are displayed. Your instructor might provide you with information about penalties that apply to the extension or explain why your request is denied.

If your instructor grants your request, your Current Assignments will display a new due date for the assignment, but you can see additional information about the extension only in the Extension Request window.

Your instructor also might ask you to provide additional information before making a decision about your request.

2. If your instructor has requested additional information, type a message and click **Submit**.

## Get an Automatic Extension

Your instructor might let you have an automatic extension of the due date for some assignments in WebAssign.

 **Important:** Late work usually has consequences. Your instructor might penalize your assignment score when granting an extension.

### To make an automatic extension request, if allowed:

1. While working on your assignment, click **Extension Request**.
2. Click the **Automatic** tab, if necessary.
3. Pay particular attention to the Penalty that is displayed under Settings to find out what penalty, if any, applies.
4. Do one of the following:
  - If you accept the terms of the extension, click **Accept Automatic Extension**. You can then begin working on the past due assignment.
  - If you do not want to accept the extension, click **Cancel**. For example, a penalty might apply to each automatic extension request and you might decide not to accept the extension.

**Extension Request** [Close this window](#)

**Intro to Physics, section 1, Spring 2009**  
**Assignment 2**

**Automatic** **Manual**

You have the option to receive an automatic extension or to request a manual extension from your instructor.

---

**Settings**

Maximum Requests:	3 more extensions
Penalty:	2 points from total score

---

**Time**

Additional Time Allowed:	New Due Date: <b>Tuesday, Mar 31, 2009 05:00 PM EDT</b> after you click accept
--------------------------	---

---

**Extension Announcement**

You will receive a 2-point penalty when you submit this extension request.

---



# 10

## Forums

---

**This chapter contains the following topics:**

- [View Forums, Topics, and Posts](#)
- [Post a Message in a Forum](#)
- [Create a Forum Topic](#)

Forums are for discussions with all of the members of your class. If your instructor creates a forum, you can then create topics within the forum or contribute to a current topic by posting a message.

**forum**

A group of related topics for discussion. Only your instructor can create forums. For example, "Homework Questions."

**topic**

A group of posts about a particular theme in a forum. You can create a new topic if needed. For example, "Homework 1."

**post**

An individual message in a forum topic. Add new posts to contribute to the conversation. For example,

A cool mnemonic for remembering the order of "Kingdom, Phylum, Class, Order, Family" is "King Phillip Called Off Fighting."

If you do not see any forums and you would like them, ask your instructor to set up forums in WebAssign.

## View Forums, Topics, and Posts

You can access the forums for your class either through your class Home page or by using the Communication menu.

### To view forums, topics, and posts for your class:

1. If necessary, select your class from the **My Classes** menu.
2. Click **Home** or **Communication**.
  - On the Home page, forums are listed under **Communication**.

Geoscience Doc 1, Spring 2011

Home

**My Assignments**

**Current Assignments (2)**

Name	Due
Tutorial documentation	Feb 28 2011 02:35 PM EST
Assignment for Screenshots	Feb 28 2011 04:30 PM EST

**Communication**

**Class Forums**

Homework Assignment 2	0 topics
Homework Assignment 1	2 topics

**Grades**

No grades have been posted at this time

- On the Communication page, forums are listed under **Class Forums**.

Geoscience Doc 1, Spring 2011

Communication

**Class Forums**

Homework Assignment 2	(0 topics)
Homework Assignment 1	(2 topics)

3. Under **Class Forums**, click the forum you want to view.  
The topics in the forum are displayed.

**Communication**

**Forum: Homework Assignment 1**  
discussion of first homework assignment

**New Topic**

Topic	Posts	Most Recent
Question 5	1	Wed, Feb 2, 2011 03:22 PM EST
Question 1	1	Wed, Feb 2, 2011 03:18 PM EST

4. Click on a topic to see the posts associated with the topic.

Communication   Topics		
Forum: Homework Assignment 1		
discussion of first homework assignment		
Topic: Question 1		
New Post		
Author	Post	Posted
Misti Pinter	Reading pages 7 - 12 will help you master question 1.	Wed, Feb 2, 2011 03:18 PM EST

- To return to the list of topics, click **Topics**.
- To return to the list of forums, click **Communication**.

## Post a Message in a Forum

Posting a message in a forum allows you to contribute to a conversation about a topic. Posts are displayed in chronological order, from oldest to newest, and you cannot delete a message once you have posted it. Your instructor has the ability to remove your post.

### To post messages in a forum topic:

1. Under **Class Forums**, click the forum you want to post in.
2. Click on the topic you want to post in.
3. Click **New Post**.

4. Type your message in the **Post** box.
5. Click **Save** to post your message.

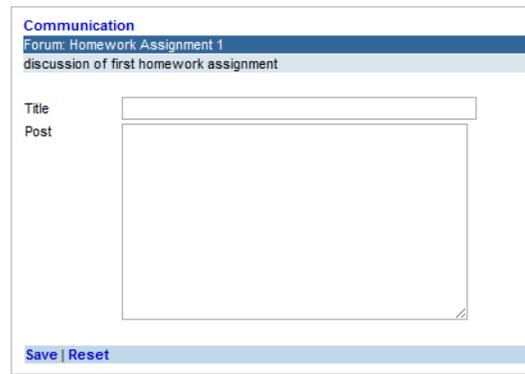
## Create a Forum Topic

You can create a new forum topic if you have a discussion topic that does not belong in an existing topic. When you add a new topic to a forum the topic is

available to everyone in the forum and you cannot delete it. Your instructor has the ability to remove your topic.

### To create a new forum topic:

1. Under **Class Forums**, click the forum you want to post a new topic in.
2. Click **New Topic**.



The screenshot shows a web form for creating a new forum topic. At the top, it says "Communication" in blue. Below that, there are two lines of text: "Forum: Homework Assignment 1" and "discussion of first homework assignment". The form has two main input areas: a "Title" box, which is a single-line text input, and a "Post" box, which is a larger multi-line text area. At the bottom of the form, there are two buttons: "Save" and "Reset".

3. Type your topic title in the **Title** box.
4. Type your topic body in the **Post** box.
5. Click **Save** to post your topic.



# Calendars

---

**This chapter contains the following topics:**

- [View Calendar](#)
- [Create Calendar Event](#)
- [Edit Calendar Event](#)
- [Delete Calendar Event](#)

When an instructor schedules an assignment, it is automatically displayed on your calendar. Your calendar shows all of your assignments on their due dates. It also shows class start and end dates as well as any personal calendar events you have added. You can edit or delete any event you have added to your calendar, but you cannot modify instructor events.

## View Calendar

Your calendar is easy to navigate.

### To use your calendar:

1. From the menu bar, click **Calendar**.

The calendar is displayed, open to the current month.

2. Click:

- the left or right arrows to view a different month
- a date to view details about events on that date or to add a personal calendar event to that date
- an event to view details about the event or to edit or delete the event

 **Note:** You can only edit or delete your personal calendar events.

### See Also:

[Assignments](#) on page 39

## Create Calendar Event

You can add events to your calendar. Types of events you might want to add are group meetings, appointments, or office hours.

1. Open the calendar.
2. Click the date to which you want to add an event.
3. Click **New Event**.
4. Enter the details of your event:
  - **Title:** enter a short but descriptive phrase that will remind you of what the event is
  - **Time:** select the time you want the event to start and the number of hours and minutes you expect the event to last. If the event is not time-sensitive, then select the **No specific Time** check box instead.
  - **Description:** enter the event details
5. Click **Save**.

## Edit Calendar Event

You can edit calendar events that you have created.

 **Note:** You cannot edit calendar events that are from your instructor, such as assignment due dates.

1. Open the calendar.

2. Click the event you want to edit.
3. Change the event details.
4. Click **Save**.  
The calendar event is changed.
5. Click the month to return to the calendar.

## Delete Calendar Event

You can delete any event you have added to your calendar.

 **Note:** You cannot delete events scheduled by your instructor, such as assignment due dates.

1. Open the calendar.
2. Click the event you want to delete.
3. Click **Delete**.
4. A popup is displayed asking if you are sure you want to delete the event. Click **OK**.  
The calendar event is deleted.
5. Click the month to return to the calendar.



# 12

## Troubleshooting and Support

---

**This chapter contains the following topics:**

- [Login Problems](#)
- [Browser Displays a Message That WebAssign is Not Supported](#)
- [Problems Installing Java on OS X](#)
- [Problems Working on iPad](#)
- [Assignment Problems](#)
- [Blackboard Problems](#)
- [Content Security Warning](#)
- [WebAssign Customer Support](#)
- [PayPal Support](#)

Sometimes, WebAssign might not behave as expected. This could be the result of a technical problem, a limitation, or user error. Whatever the cause, these topics can help you understand and address some of the most common issues before contacting WebAssign Customer Support.

## Login Problems

Sometimes problems can occur when logging in to WebAssign.

### Cannot Access WebAssign

If you cannot access WebAssign there are several steps you can take to attempt to correct the issue.

Check the following:

- Your hardware is functioning correctly
- You are able to connect to other Internet sites
- You are using the most updated versions of your operating system, Web browser, and browser-related plugins (Flash and Java)

After you have verified the previous items, you can report your problem by submitting a help request to WebAssign Customer Support. Provide as much of the following information as possible for the time the problem occurred/occurs:

- Username, school, and any classes you are enrolled in
- Assignment and question you are having difficulty with
- Date and time the problem occurred
- Operating system used when the problem occurred
- Antivirus program you are using
- Anti-spyware program you are using
- Name of the Web browser you are using

 **Important:** Please note that using WebAssign to submit your assignments does not change any provisions of your institution's honor code or affect in any way guidelines provided by your instructor about completing or submitting work.

Attempts to abuse, misuse, or otherwise violate the integrity of the WebAssign site might not only be considered violations of the honor code, but might also be prosecuted under existing state and federal laws.

### Different Name or Institution Displayed

If you see someone else's name and institution displayed at the top of any page in WebAssign, you are logged in to that person's WebAssign account. Most likely, that person did not log out of WebAssign completely before you started working.

Make sure you always log in using your own account so you get credit for your work.

If you notice that you are not in your account, write down your answers and log out of the other person's account. Then, log back in using your username, institution, and password.

When you log in correctly, your username and school are displayed in the "logged in as" message. Also, your full name and institution are displayed in the box in the top right of your WebAssign pages.

## Repeated Requests to Log In

Certain pages in WebAssign might ask you to log in repeatedly. Usually, this occurs after an extended period of inactivity, for example, if you forgot to log out of WebAssign.

You can resolve the problem using the following steps.

1. Either click **log out** to log out of WebAssign, or exit your browser.
2. If the problem still occurs, set your browser to accept cookies from webassign.net.

For increased security and to avoid this problem, remember to log out every time you are finished using WebAssign.

## Browser Displays a Message That WebAssign is Not Supported

If you log in to WebAssign from a browser version or system that is not explicitly supported by WebAssign, a message is displayed.



Review the system requirements for WebAssign and log in using a supported browser.

### See Also:

[System Requirements for WebAssign](#) on page ix

## Problems Installing Java™ on OS X

Some questions require the Java™ plugin. On Mac® OS X, the version of this plugin that you can install is dependent on the version of OS X you are using.

### OS X Version 10.6 (“Snow Leopard”) and Earlier

- Use the OS X Software Update feature to ensure that you are running the most current version of Java™ 6.
- Java™ 7 and later is not supported.

### OS X Version 10.7 (“Lion”) and Later

- Install Java™ 7 from [www.java.com/getjava](http://www.java.com/getjava).
- Java™ 6 and earlier is not supported.

 **Note:** You cannot open Java™ content in Google® Chrome™ on Mac® OS X Version 10.7 and later.

This limitation exists because Java™ 7 and later is a 64-bit plugin and Chrome™ for OS X is a 32-bit browser. On OS X 10.7 and later, you can open Java™ content using Apple® Safari® after installing the Java™ plugin.

**See Also:**

[Required Browser Plug-Ins](#) on page x

[MarvinSketch Questions Do Not Display Drawing in Assignment](#) on page 211

[MarvinSketch Window Doesn't Close and Update Drawing in Assignment](#) on page 211

## Problems Working on iPad®

Most WebAssign tools are enabled for use on iPad®, allowing students to complete many assignments using Safari® on iPad®. But there are some known issues for students using an iPad®.

### mathPad®, calcPad®, and physPad®

- Copying and pasting expressions does not work reliably on an iPad®.
- Intermittently, the iPad® keyboard might not display.  
Tap again in the answer box to display the keyboard.
- The **Next**, **Previous**, **Undo**, and **Redo** keys on the iPad® keyboard are not enabled.

### WebAssign Graphing Tool

- You cannot pinch to zoom in or out in the graphing tool. You can double-tap to zoom.
- Making any other change to your graph removes all fills.
- You can drag an object outside the visible area of the graph.  
To move the object back within the visible area of the graph, edit its properties in **Graph Layers**.

### NumberLine™

- You cannot pinch to zoom in or out in NumberLine™. You can double-tap to zoom.

### Unsupported Content

Some assignments contain content requiring either Adobe® Flash® Player or Java™. These assignments can be opened on an iPad®, but the content requiring Flash® or Java™ will not be displayed. Currently, this includes the following content:

- MarvinSketch questions

- pencilPad® questions
- publisher-provided content such as eBooks and tutorials that use Flash® or Java™
- instructor-provided content requiring Flash® or Java™

## Timed Assignments

The assignment timer is not displayed for timed assignments when working on an iPad®.

## Bluetooth Keyboards

Using a Bluetooth keyboard with your iPad® might work, but is not supported. Navigation keys on Bluetooth keyboards do not move the insertion point.

### See Also:

[Answer mathPad, calcPad, or physPad Questions on an iPad](#) on page 79

[NumberLine on an iPad](#) on page 125

[Use Graphing Tool on an iPad](#) on page 90

[Work on a Timed Assignment](#) on page 44

## Assignment Problems

Sometimes problems can occur when you are working on assignments in WebAssign.

### Assignment Loads Slowly

Sometimes, assignments load slowly in WebAssign. Often, this is because a large assignment has been configured to display all questions at once.

A “large” assignment:

- has many questions, or
- has a few questions with many question parts, or
- uses multimedia like videos and interactive tutorials.

#### **If the assignment displays many questions on a single page:**

Your instructor might be able to change the assignment to show one question at a time.

#### **If the assignment displays only one question at a time and is still slow:**

Report the problem to WebAssign.

## Cannot Submit Assignment

When you attempt to submit an assignment, WebAssign indicates that the assignment is past due, even though your clock indicates that it is not yet time for the assignment to be due.

WebAssign assignment due dates and times are determined by the clocks of the WebAssign servers, not by the date and time indicated on your computer. Every effort is made to ensure that these server clocks are accurate.

To avoid this problem, be sure to submit assignments well before the last minute. Note that the time displayed at the top of the page in WebAssign is the WebAssign server time when the page was loaded into your browser and might not reflect the current time on the WebAssign server.

## Questions Coded Using JavaScript May Not Work in IE 9

Due to Internet Explorer 9 not supporting older JavaScript code, certain instructor-coded questions may not work properly for students who use IE 9.

The questions that do not work properly are chemistry questions that require students to draw objects. When a student draws for these questions, the answer may not be recorded properly in the answer string. If you are a student and notice this occurring, please use a different browser to work on assignment that contain these questions.

## Display Problems in Internet Explorer®

Some assignment display problems have been observed in Internet Explorer® 8 and 9 when compatibility mode is turned on.

Some of the observed symptoms include the following:

- Parts of some questions might not be visible to students.

Other symptoms might also occur.

Internet Explorer® compatibility mode can cause the browser to display the assignment as if it were an unsupported version of Internet Explorer®. There should be no need to use compatibility mode when using WebAssign.

To resolve the problem, turn off compatibility mode.

1. Click **Tools** and clear **Compatibility View**.
2. If needed, click **Tools > Compatibility View Settings** and change the settings so WebAssign pages are not displayed in compatibility mode.



**Note:** You might need to display the Menu bar.

### See Also:

[System Requirements for WebAssign](#) on page ix

## Incorrect Characters Displayed When Typing in Some Questions

Sometimes in Flash-based question types, such as NumberLine or the graphing tool, the characters that are displayed in your answer are not the characters you typed. Instead, random numbers are displayed. Or, your answer might not be visible because the text is white on a white background.

This problem could also occur in Flash-based learning materials associated with your course. It occurs only on Windows computers.

This problem is caused by the GuardedID security program, which provides protection against keylogging spyware. Unfortunately, GuardedID can also interfere with normal operation of some gaming applications and WebAssign tools.

GuardedID is installed as part of the Comcast Xfinity Constant Guard Protection Suite, and might also be included in other security packages.

To resolve this problem, either uninstall GuardedID or disable it while you are using WebAssign. Instructions are available on the GuardedID Web Site at [www.guardedid.com/support\\_faq.aspx](http://www.guardedid.com/support_faq.aspx).

## Incorrect Question or Scoring

Sometimes when you use WebAssign you might encounter a question that you believe either has bad content or is not being graded correctly.

When this happens you should contact your instructor. Let your instructor know the assignment, question, and issue. Your instructor can check the question format and answer key for a question and escalate any content issues to WebAssign.

## Cannot Change Your Answers Even Though You Have More Submissions

For some assignments, after submitting one or more answers, you cannot change your answer again, even though you have more submissions and the assignment deadline has not passed.

If you have checked your remaining submissions and know that the deadline has not passed, the assignment might require you to get a new randomization before you can continue.

### **See Also:**

[Randomization](#) on page 51

[Submit Your Answers](#) on page 45

[List Your Assignments](#) on page 40

## LockDown Browser Is Not Working Properly

Sometimes, LockDown Browser does not work properly on Mac OS X or Windows.

If LockDown Browser is installed but does not work when you open an assignment that requires LockDown Browser, try uninstalling it and then installing the latest version. To install the latest version of Lockdown Browser, go to [webassign.com/instructors/features/secure-testing/lockdown-browser/](http://webassign.com/instructors/features/secure-testing/lockdown-browser/).

**See Also:**

[Work on an Assignment with LockDown Browser](#) on page 43

## Some Questions Require Question Part Submission

Questions that contain scored tutorials require the assignment to use question part submission in order to work correctly. You cannot save, and your students cannot complete, an assignment that contains a scored tutorial and does not use question part submission.

## Scored Tutorial Questions

Tutorial questions have a distinctive user flow:

- Students must either correctly answer, skip, or use all of their submissions for each step before viewing the next step.
- Students cannot go back to complete steps they have skipped.
- The answer key is always displayed for steps after all submissions have been used or the step is answered correctly or skipped.
- Students can click tutorial hint icons  to display hints.

**Scored tutorial questions** are shown in the assignment itself and count toward the assignment score. In the Assignment Editor, you can set the point value for the entire tutorial or for each question part.

For scored tutorial questions to work correctly, you must allow question part submission in your assignment. If you require students to submit the entire question or the entire assignment, they cannot complete the tutorial step-by-step.

## You Cannot Save an Assignment With a Scored Tutorial Question

The most common symptom you might see is that you cannot save an assignment that contains scored tutorial questions unless question part submission is set for the assignment.

To resolve this situation, perform either of the following tasks:

- Set the assignment to allow question part submission
- Remove the questions with scored tutorials from the assignment

## Your Students Cannot Open an Assignment With a Scored Tutorial Question

This symptom is rare because WebAssign prevents you from saving an assignment with a scored tutorial question unless question part submission is set for the assignment. However, it can occur if you first create the assignment, and then change one of the questions on the assignment to include a scored tutorial.

To resolve this situation, perform one of the following tasks:

- Set the assignment to allow question part submission
- Remove the questions with scored tutorials from the assignment

- Edit the questions with scored tutorials and change the scored tutorials to optional popup tutorials

## WebAssign Displays **Your answer was not submitted**

Sometimes the Mathematica<sup>®</sup> server does not respond quickly enough when grading mathPad, calcPad<sup>®</sup>, or physPad<sup>®</sup> questions.

 **Note:** This is a known problem that WebAssign is working to correct.

If this happens:

- You do *not* lose a submission.
- WebAssign displays the message **Your answer was not submitted** with a link to this help topic.

If you see this message, submit your answer again.

### **If the problem happens again for the same answer box:**

Rarely, this problem will happen more than once for the same answer box. If this happens, the answer box shows your last submitted answer instead of the new answer you were trying to submit.

1. Change your answer back to the answer you want to submit.
2. Submit your answer again.

## MarvinSketch Problems

Some problems have been reported in specific situations when you are using the MarvinSketch tool in WebAssign.

### **MarvinSketch Window Doesn't Close and Update Drawing in Assignment**

When answering a MarvinSketch question, students open the MarvinSketch editor, draw the structure, and click **OK** to update their answer on the assignment. When the installed Java<sup>™</sup> version is not up to date, clicking **OK** does not work and students can't submit MarvinSketch answers.

This behavior is a result of changes in recent versions of Java<sup>™</sup> 7, and might affect other Java<sup>™</sup> Web applications.

To resolve this problem, update your installation of Java<sup>™</sup> to Java<sup>™</sup> version 1.7.51.

#### **See Also:**

[Problems Installing Java on OS X](#) on page 205

[Required Browser Plug-Ins](#) on page x

### **MarvinSketch Questions Do Not Display Drawing in Assignment**

If a downgraded version of Java<sup>™</sup> has been installed on Mac<sup>®</sup> OS X version 10.7 ("Lion") and later, you will see problems with MarvinSketch questions. Your

drawing is not displayed in the assignment, and correct answers are marked incorrect.

This problem affects only Mac<sup>®</sup> OS X version 10.7 (“Lion”) and later on which Java<sup>™</sup> version 6 has been installed.

 **Note:** Java<sup>™</sup> version 6 is not supported on OS X 10.7 and later.

To resolve this problem, either use a different computer or use the following procedure to upgrade to Java<sup>™</sup> version 1.7.51. You must have administrator privileges on the computer.

### **To upgrade a downgraded version of Java<sup>™</sup> on Mac<sup>®</sup> OS X version 10.7 and later:**

1. Open the Terminal.
2. Enter the following command:  

```
sudo ln -sf /System/Library/Frameworks/JavaVM.framework/Versions/Current/Commands/javaws /usr/bin/javaws
```

When prompted, enter your system password to authorize the command.

This removes the symbolic link that was created when the Java<sup>™</sup> version was downgraded.
3. Install a supported version of Java<sup>™</sup>.

#### **See Also:**

[Problems Installing Java on OS X](#) on page 205

[Required Browser Plug-Ins](#) on page x

### **MarvinSketch or Java<sup>™</sup> Questions Report a Certificate Problem**

Recent versions of Java<sup>™</sup> report a problem with the certificate when you attempt to open a MarvinSketch question.

1. Add <https://webassign.net> to your Java Exception Site List.  
See [www.java.com/en/download/faq/exception\\_sitelist.xml](http://www.java.com/en/download/faq/exception_sitelist.xml).
2. Exit and restart your browser.

### **Can't Open MarvinSketch or Java<sup>™</sup> Questions in Chrome<sup>™</sup>**

Some questions, including questions using MarvinSketch or JME, require the Java<sup>™</sup> browser plugin. Depending on your version of Google<sup>®</sup> Chrome<sup>™</sup>, you might have problems opening questions requiring Java<sup>™</sup>.

### **Chrome<sup>™</sup> Version 42 and Later**

Google<sup>®</sup> Chrome<sup>™</sup>, version 42 and later requires you to turn on NPAPI support before you can use the Java<sup>™</sup> plugin.

 **Note:** Google® has announced plans to drop all NPAPI support in a future version of Chrome™. If this happens, you will need to use another supported browser to open questions that require Java™.

1. In Chrome™, go to <chrome://flags/#enable-npapi>.
2. Under **Enable NPAPI**, click **Enable**.
3. Click **Relaunch Now** button at the bottom of the page to exit and restart Chrome™.

### Chrome™ on Microsoft® Windows®, Version 36 and Earlier

For these versions, Chrome™ is a 32-bit browser. MarvinSketch requires Java™ version 1.7.51, which is a 64-bit plugin.

- Upgrade Chrome™ to the current version and [enable NPAPI support](#).
- Use Mozilla® Firefox®, version 24 or later or Internet Explorer®, version 10 or later.

### Chrome™ on Mac® OS X, Version 38 and Earlier

For these versions, Chrome™ is a 32-bit browser. MarvinSketch requires Java™ version 1.7.51, which is a 64-bit plugin.

- Upgrade Chrome™ to the current version and [enable NPAPI support](#).
- Use Apple® Safari®, version 6 or later.

#### See Also:

[Required Browser Plug-Ins](#) on page x

### MarvinSketch Does Not Work in Firefox® on OS X

Sometimes, MarvinSketch stops working in Mozilla® Firefox® on Mac® OS X.

This problem is a known issue with Java™ applets and Firefox® on OS X.

If this problem occurs, use Safari® instead.

### MarvinSketch Does Not Work in Internet Explorer®

Sometimes, MarvinSketch either does not load correctly or does not update a student's answer when using Internet Explorer®.

This problem happens when compatibility mode is enabled in Internet Explorer®.

Internet Explorer® compatibility mode can cause the browser to display the assignment as if it were an unsupported version of Internet Explorer®. There should be no need to use compatibility mode when using WebAssign.

To resolve the problem, turn off compatibility mode.

1. Click **Tools** and clear **Compatibility View**.

2. If needed, click **Tools > Compatibility View Settings** and change the settings so WebAssign pages are not displayed in compatibility mode.

 **Note:** You might need to display the Menu bar.

### MarvinSketch Does Not Work in Safari® on Windows®

For some versions of Apple® Safari® on Microsoft® Windows®, the Java™ applet required by MarvinSketch does not load.

MarvinSketch is not supported for Safari® on Windows®. To answer MarvinSketch questions, log in to WebAssign using another supported browser.

## Blackboard® Problems

Sometimes problems can occur with WebAssign and Blackboard®.

### Not Automatically Logged in to WebAssign from Blackboard®

When you open WebAssign from Blackboard®, you should be automatically logged in to WebAssign. Sometimes this does not happen and the WebAssign login page is displayed instead.

This problem occurs when your Web browser is not configured to accept third-party cookies.

To resolve the problem, configure your browser to accept third-party cookies and try again.

### To configure your browser to accept third-party cookies:

Refer to the instructions for your browser.

- Mozilla® Firefox®, version 24 or later: [support.mozilla.org/en-US/kb/enable-and-disable-cookies-website-preferences](http://support.mozilla.org/en-US/kb/enable-and-disable-cookies-website-preferences)
- Internet Explorer®, version 10 or later: [windows.microsoft.com/en-us/internet-explorer/delete-manage-cookies](http://windows.microsoft.com/en-us/internet-explorer/delete-manage-cookies)
- Apple® Safari®
  - version 6 or 7: [support.apple.com/kb/PH17191](http://support.apple.com/kb/PH17191)
  - version 8: [support.apple.com/kb/PH19214](http://support.apple.com/kb/PH19214)
- Google® Chrome™, version 35 or later: [support.google.com/chrome/answer/95647?hl=en](http://support.google.com/chrome/answer/95647?hl=en)

### See Also:

[Access WebAssign from Blackboard](#) on page 12

## Blackboard® Not Available

If the Blackboard® system is unavailable, you can log in to WebAssign directly if you have previously set your WebAssign password.

WebAssign accounts generated by Blackboard® do not have passwords because authorization is performed by the Blackboard® system. Before you can log in to WebAssign directly, you must set your password using the steps described here.

### To set a WebAssign password for your Blackboard®-created account:

1. Log in to WebAssign through Blackboard®.  
Your username is displayed in the top right corner of the WebAssign page.
2. Write down your WebAssign username.  
Your username is displayed in the top right corner of the WebAssign page.
3. Set your email address in WebAssign.  
You need an email address in order to reset your password.
4. Reset your password.  
Since Blackboard® does not create a WebAssign password for you, you need to reset your password in order to create a password.

After noting your WebAssign username and creating your password, you can log in to WebAssign directly.

If you need help with your account, submit a help request.

#### See Also:

[Change Your Contact Information](#) on page 19

[Reset Your Password](#) on page 3

[Log in](#) on page 1

[Access WebAssign from Blackboard](#) on page 12

## Multi-Term Access Code Not Applied When Linking From Blackboard®

If you purchased multi-term access to WebAssign and your current or previous class uses Blackboard® to link to WebAssign, your multi-term access code might not work automatically.

This can happen in two situations:

- you purchased access in a class for which you logged in to WebAssign directly and your current class logs in to WebAssign through Blackboard®, or
- you purchased access in a class for which you logged in to WebAssign through Blackboard® and your current class logs in to WebAssign directly.

In both cases, the cause is that when logged in to WebAssign through Blackboard® you are using a different WebAssign user account than when logged in to WebAssign directly.

To resolve the problem, contact WebAssign Customer Support with your WebAssign and Blackboard® usernames. If your multi-term access is transferable, it will be applied to your current WebAssign account.

**See Also:**

[/webassign.com/support-request](http://webassign.com/support-request)

## Content Security Warning

Rarely, your browser might display a warning that a page in WebAssign contains some content that is not encrypted or secure. The browser message might be like one of the following messages:

- This page contains both secure and nonsecure items. Do you want to display the nonsecure items?
- Do you want to view only the webpage content that was delivered securely? This webpage contains content that will not be delivered using a secure HTTPS connection, which could compromise the security of the entire webpage.
- You have requested an encrypted page that contains some unencrypted information. Information that you see or enter on this page could easily be read by a third party.

Your browser might also display a broken padlock icon or a padlock icon with an exclamation point to indicate this situation.

**\* Important:** This warning does not indicate that anything is wrong with WebAssign itself. It occurs when an assignment, question, communication, or other user-created content in WebAssign references images or other files from outside of WebAssign.

When this warning is shown, your browser usually gives you a choice to view the unencrypted content. If you do not think that the unencrypted content poses a security risk, choose to view it.

If you are concerned that the unencrypted content might pose a security risk, choose not to view it and contact WebAssign Customer Support to request investigation of the content. In most cases, an assignment or question that references unencrypted content can be updated to reference only secure content from WebAssign.

## WebAssign Customer Support

Help with using WebAssign is just a few clicks or a phone call away.

Sometimes, you need a personalized answer to a specific question. Or, you are having a problem that is not covered by the known issues or helps. WebAssign Customer Support is fast and free.

- From the WebAssign application:
  1. Click **Help**.
  2. From the help system, click  > **Customer Support**.

- Go to [webassign.com/support-request](http://webassign.com/support-request).
- Call (800) 955-8275.

The WebAssign Customer Support staff *cannot*:

- change your username or password
- give extensions
- change your score
- give you extra submissions
- help you with the content of assignments
- resolve problems with PayPal payments

**See Also:**

[Ask Your Teacher for Help With a Question](#) on page 188  
[/webassign.com/support-request](http://webassign.com/support-request)

## PayPal Support

For support with PayPal-related problems, contact PayPal directly. WebAssign Customer Support cannot resolve PayPal problems.

- Online: [www.paypal.com](http://www.paypal.com)
- Telephone: (402) 935-2050



# Accessibility

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**This chapter contains the following topics:**

- [Screen Reader Configuration for STEM Content](#)
- [Configure Mac OS X for Keyboard Accessibility](#)

WebAssign is committed to providing powerful education tools and content for all students, including students with disabilities.

Accessibility for students with visual impairments is particularly an issue with science, technology, engineering, and math (STEM) content, which traditionally uses complex notation and figures. WebAssign has worked to provide accessible representations of both notation and figures to screen readers. And, students entering math notation can use the same “calculator” notation that is read by the screen reader without worrying about the visual representation of the math.

Accessible content in WebAssign is tested using the following screen reader versions:

- JAWS<sup>®</sup>, version 15.0
- Window-Eyes<sup>™</sup>, version 8.2
- ZoomText<sup>®</sup>, version 10

**See Also:**

[NC State University IT Accessibility](#)

## Screen Reader Configuration for STEM Content

Screen readers usually need to be configured differently to read science, technology, engineering, and math (STEM) content than for other types of content.

### Recommended Settings

#### Announce capital letters

Capital and lowercase letters are not interchangeable in STEM content.

#### Announce numbers written with a slash as fractions rather than dates

For example, 1/2 should be read as one over two, not January second.

#### Announce superscripts and subscripts

This notation is common and important for STEM content.

#### Announce all plus and minus signs

Often, screen readers are configured not to announce minus signs or hyphens. Notation like  $-x$  or  $-x$  should be announced as minus  $x$ .

#### Announce UTF-8/special characters

Often, screen readers are configured not to announce characters like nabla ( $\nabla$ ), plus or minus ( $\pm$ ), greater than or equal to ( $\geq$ ), less than or equal to ( $\leq$ ), union ( $\cup$ ), or intersection ( $\cap$ ) that are used extensively in STEM content. The names of these characters should be announced.

For JAWS<sup>®</sup>, see [JAWS Symbols File](#) on page 221.

#### Announce alt text for images

Accessible content in WebAssign uses the alt attribute for images.

- If the title attribute is used, its text is the same as the alt attribute.
- The longdesc attribute is not used.

#### Announce all images

Small images are sometimes used to display symbols in WebAssign content; these images have alt text provided and should be announced.

 **Note:** JAWS<sup>®</sup> cannot be configured to announce all images; instead, configure JAWS<sup>®</sup> image settings to the smallest allowable values.

### Optional Settings

#### Update dictionary settings to correctly pronounce STEM terms

This is something you might want to do on a case-by-case basis when the screen reader first mispronounces a STEM term. Commonly mispronounced terms include:

- short forms of trigonometric functions like sin, cos, and tan
- the mathematical function lim (announce as "limit on")
- $\rightarrow$  or  $\dashrightarrow$  (announce as "right arrow")
- $\neq$  (announce as "not equals")



## Configure Mac® OS X for Keyboard Accessibility

By default, Mac® OS X is not configured to use the TAB key to navigate to all items in your browser. If you are using Apple® Safari®, you also need to configure it to use TAB to navigate to all items on the page.



### Note:

- These changes are not needed for Google® Chrome™.
- Only the OS X changes are required for Mozilla® Firefox®.

### To configure Safari® on Mac® OS X to use the TAB key to navigate to all items:

1. Configure OS X to allow keyboard access for all controls.
  - a) Open System Preferences and click **Keyboard**.
  - b) Click the **Keyboard Shortcuts** tab.
  - c) Under **Full Keyboard Access**, select **All controls**.
2. Open Safari and configure it to allow you to use TAB to navigate to each item.
  - a) Click **Safari > Preferences**.
  - b) Click the **Advanced** tab.
  - c) Select **Press Tab to highlight each item in a webpage**.

### To configure Firefox® on Mac® OS X to use the TAB key to navigate to all items:

Configure OS X to allow keyboard access for all controls.

- a) Open System Preferences and click **Keyboard**.
- b) Click the **Keyboard Shortcuts** tab.
- c) Under **Full Keyboard Access**, select **All controls**.

## More Information

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The following documents and links can provide additional information to help you.

### Online Help

[webassign.net/manual/student\\_guide/](http://webassign.net/manual/student_guide/): The online help provides information about working in WebAssign, including completing assignments and answering different kinds of questions.

 **Tip:** Open the online help from within WebAssign by clicking **Help** in the top right of any page.

### WebAssign Student Guide

[webassign.net/manual/WebAssign\\_Student\\_Guide.pdf](http://webassign.net/manual/WebAssign_Student_Guide.pdf): The *WebAssign Student Guide* is a PDF version of the online help.

### WebAssign Knowledge Base

[webassign.force.com/wakb2](http://webassign.force.com/wakb2): The WebAssign Knowledge Base provides answers to some frequently asked questions.

### WebAssign Terms of Use

[webassign.com/corporate/terms-of-use/](http://webassign.com/corporate/terms-of-use/)

