

CONCEPTUAL PROBLEMS, Chapter 35

Phys 2401, Dr. Huang

Fill in a **T/F** answer for each statement below:

1. [] For reflection of light, the angle of reflection equals the angle of incidence.
2. [] The speed of light is the same in all optical mediums.
3. [] The frequency of a light ray is the same when the light travels from one medium to another.
4. [] The index of refraction indicates the ability of a medium to bend the light beam as refraction occurs.
5. [] When you see a fish in water from a boat, the fish is actually not at where you think it is.
6. [] Total internal reflection can occur when light travels from vacuum to an optical medium with higher index of refraction.
7. [] The reason that a prism can produce a color spectrum from a white light source is that its index of refraction is a function of light frequency.
8. [] When a light beam of wavelength λ is incident on a slit of width d , the ray approximation is valid when $\lambda \approx d$.
9. [] Optical fibers rely on total internal reflection to prevent light lose at surfaces.