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

1. [ ] Constructive interference occurs when two or more waves overlap and the amplitude of the resultant wave is greater than that of any individual waves.

2. [ ] In Young’s double-slit experiment, the condition for constructive interference is that the path difference of two waves must be either zero or some integer multiple of the wavelength.

3. [ ] When a light wave traveling from air is reflected on a diamond surface, the reflected wave undergoes a 180° phase change.

4. [ ] Colorful patterns you seen on soap bubbles are resulted from light interference. The color depends on the thickness of the film.