***Intensity and Interference***

1. If you double your distance from the sound force, will the intensity increase or decrease? By how much?

2. Your roommate has hidden your alarm clock from you, and it goes off in the middle of the day. You want to shut it off. You go 2 meters towards the noise and realize that your intensity has quadrupled. How are you from the alarm clock at your current location?

3. Blue whales are the loudest creatures; they can emit sound waves with an intensity of 3.0 x 10-3 W/m2. If this intensity is measured 4.0 m from its source, what power is associated with the sound wave?

4. In 1983, Roy Lomas became the world’s loudest whistler; the power of his whistle was 1.0 × 10-4 W. What was the sound’s intensity at 2.5 m?

5. Which of the images below will result in constructive interference?

6. Which of the images below will result in destructive intereference?

a.

 

b.



c.



d.

