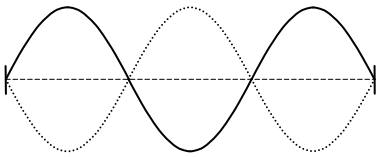
PHY 101
Example Lab Exam Questions

The recommended approach to using these questions for preparation for major lab exams is to

- Read and answer each question
- Try to verify your answers using the lab manual and PowerPoint shows
- Check the answer key

1. The purpose of the *Superposition of Waves* experiment was to obtain the resultant wave formed by the superposition of two traveling waves.
   (a) True
   (b) False

2. What harmonic and what overtone are depicted in the vibrating string shown below?
   (a) second and second
   (b) third and third
   (c) second and first
   (d) third and second
   (e) fifth and second



3. A standing wave in a closed organ pipe is characterized by
   (a) a node at each end of the pipe.
   (b) an antinode at each end of the pipe.
   (c) a node at one end of the pipe and an antinode at the other end.
   (d) an antinode and a node at the same end of the pipe.
   (e) none of the above.

4. In the *Types of Spectra* experiment, the scale for the visible region was presented in the spectroscope as between 400 nm and 700 nm. The nm is a unit of
   (a) length.
   (b) mass.
   (c) time.
   (d) wave speed.
   (e) none of these.

5. In *The Ray Box: Part One* experiment, we found that concave mirrors _____ light rays.
   (a) absorb
   (b) emit
   (c) diverge
   (d) converge
   (e) none of these

6. In *The Ray Box: Part Two* experiment, blue and yellow filters are placed successively before a beam of white light. Green light emerged no matter in what order the filters are placed. This is due to _____ of colors.
   (a) multiplication
   (b) subtraction
   (c) addition
   (d) division

7. In the *Telescopes* lab, the _____ lens was used as the eyepiece lens in the opera glass.
   (a) concave
   (b) convex
   (c) either (a) or (b)

8. In the *Graphing* lab, the independent variable is plotted along the _____ axis and the dependent variable is plotted along the _____ axis, respectively.
   (a) vertical, horizontal
   (b) horizontal, vertical

9. In *The Simple Pendulum* Experiment, when the length of the pendulum decreased, the period of the pendulum
   (a) decreased
   (b) increased
   (c) did not change

10. If the direction of the resultant vector is 30^o, then the direction of equilibrant vector is
    (a) -30^o
    (b) 180^o
    (c) 120^o
    (d) 210^o

11. In the *Linear Momentum* experiment as a ball rolled down the curved ramp in what ways did its momentum change?
    (a) it increased in magnitude
    (b) the direction of the momentum changed
    (c) both (a) and (b)
    (d) none of the above

12. Centripetal force is a center-seeking force.
    (a) True
    (b) False