

# Standing Wave Quiz

Started: May 18 at 11:47am

## Quiz Instructions

These questions come directly from the lab manual and the Pre-Lab resources section of the modules, please be sure to read before taking the quiz. Check and make sure your answers are in the appropriate units. You have only one attempt at the quiz.

### Question 1

2 pts

A 9.6 kHz sine wave travels along a string with a velocity of 201.0 m/s, determine the wavelength of the wave in meters. Give your answer to two significant digits.

### Question 2

2 pts

Given the following wave function  $y = A \sin \left( \frac{2.5}{m} \left\{ x - \left( 5.4 \frac{m}{s} \right) t \right\} \right)$ , where m is unit of meters.

Compare this equation to the equation given for a wave in your lab manual. Determine the frequency of the wave in Hz.

### Question 3

2 pts

A standing wave is set up on a string of length 1.18 m. Determine the frequency of the third mode of the wave if the velocity is 206.0 m/s. Give your answer to one decimal place.

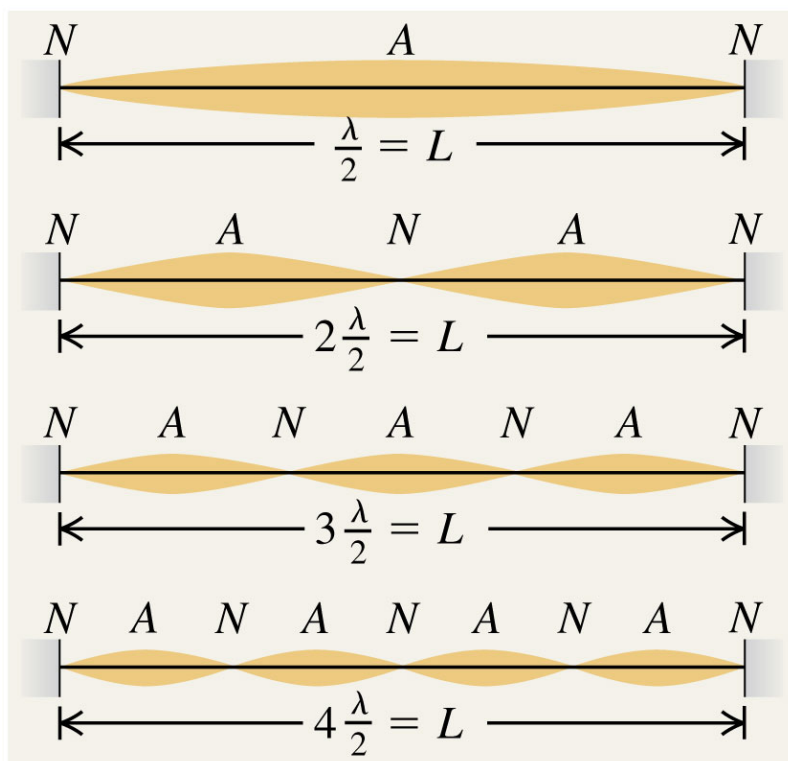
## Question 4

2 pts

Given the set-up on page 88 of the lab manual, find the velocity in m/s of a standing wave set up on a string with mass per unit length  $\mu$ , of  $20.0 \frac{g}{m}$ . The hanging weight has a mass of  $623.0g$ .

## Question 5

2 pts



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Shown in the image are the various harmonic modes for a standing wave on a string. What is the wavelength in terms of  $L$  for the 3rd mode? Give your answer as a fraction.

No new data to save. Last checked at 4:17pm

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