

# Sound Waves Quiz

**Due** Jun 6 at 1pm **Points** 10 **Questions** 5 **Available** Jun 1 at 12am - Jun 6 at 2pm 6 days  
**Time Limit** None

## Instructions

Please read the lab instructions and the powerpoint that is posted in the Sound Waves Module before taking the quiz. You have two attempts at the quiz, and no time limit. For each question, round your answer to the second decimal place.

## Attempt History

	Attempt	Time	Score
LATEST	<a href="#">Attempt 1</a>	74 minutes	4 out of 10

 Correct answers are hidden.

Score for this quiz: 4 out of 10

Submitted Jun 2 at 1:41pm

This attempt took 74 minutes.

### Question 1

2 / 2 pts

The temperature of the room is 74.0°F, what is the temperature in Celcius?

### Question 2

2 / 2 pts

What is the theoretical velocity of a sound wave, in m/s, travelling in a room with a temperature of 75.3°F?

Incorrect

**Question 3**

0 / 2 pts

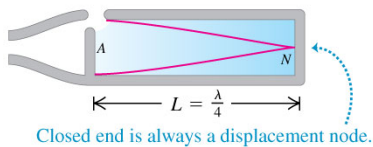
Determine the length of the resonance tube in centimeters for a sound wave of wavelength 0.66 meters, given that  $L_{\text{corr}}$  is 2 cm, if the fundamental mode is resonating in the tube.

Incorrect

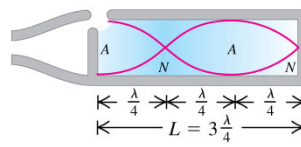
**Question 4**

0 / 2 pts

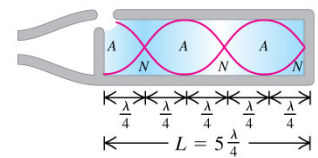
(a) Fundamental:  $f_1 = \frac{v}{4L}$



(b) Third harmonic:  $f_3 = 3\frac{v}{4L} = 3f_1$



(c) Fifth harmonic:  $f_5 = 5\frac{v}{4L} = 5f_1$



From the image above, determine the wavelength of the third harmonic in terms of the length  $L$  of the tube.

Incorrect

**Question 5**

0 / 2 pts

After taking your measurements in the lab you find that the speed of sound in air is 337.1 m/s. Calculate the theoretical speed of sound in air in a room at  $24^\circ\text{C}$ . Report the percent difference between the measured and theoretical speed of sound in air.

345.9000

Quiz Score: **4** out of 10