

# Harmonics 3<sup>rd</sup> Quarter Wavelength Harmonics

QUIZ

- ~~8000~~
- Sound waves are being created in a tube.
- The length of this tube is 80 cm.
- The speed of sound inside the tube is 330 m/s.

One end of the tube is open and the other is closed.

Draw the first 3 Harmonics in this tube

1st



3rd



5th



(Following the convention of only counting odd harmonics)

The drawings don't need to be super beautiful.  
I just want you make a solid effort to show  
the general shape.

For each of the first 4 harmonics,  
identify the wavelength and frequency.  
Please use SI units

wavelength(m)

Frequency (Hz)

1

3

5

7