**Waves and SHM: Resonance in Pipes**

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**Make sure to INCLUDE UNITS!**

**Speed of sound in air at STP = 343 m/s**

1. For a pipe of length L = 0.92 m, what is the fundament frequency of the pipe if it is open at one end and closed at the other?
2. A pipe is closed at both ends and is 1.50 m in length. What are the frequencies of the first three harmonics that would be produced?

Answers:

1. For an open-closed pipe 







1. Use the close-close ended pipe formula to find the first harmonic (the fundamental frequency):

 











