Reg: Due: Thurs., Mar 9 (Assigned: Tues., Mar 7)

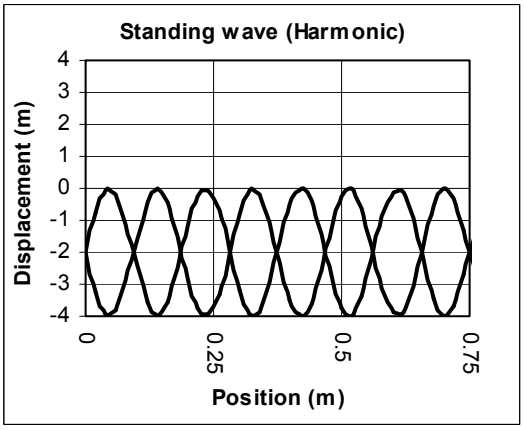
Harmonic Review 4 – Regulars Only

1. Use the standing wave at the right to answer the following.
   A. Find the standing wave's wavelength.

   B. If this was a sound wave, find its frequency.

   C. Can we hear it's frequency?

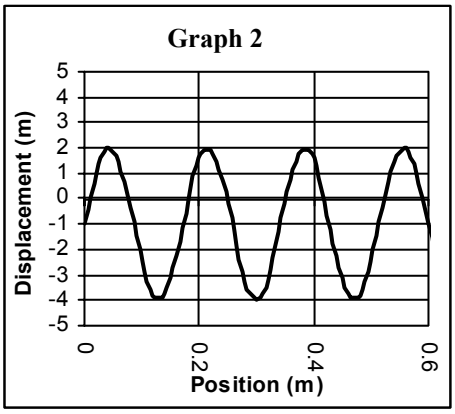
   D. Amplitude = _____ E. Period = _____
   F. Where will it come to rest?
   I. Find the fundamental frequency for this space.



   J. Find the wavelength of the fundamental for the space on graph 1.

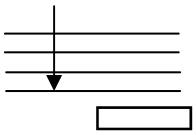
2. Use the graph at the side to answer the following.
   A. Amplitude =
   B. If it is a sound wave, find its frequency (use the same process as in #1).

   C. How long would it take to complete 150 cycles?

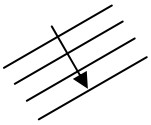


3. Show what will happen to these waves at the boundaries. And name which interaction is shown for each. (See notes: "Wave Interactions".)

A. _____

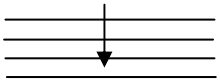


B. _____



Hard boundary

C. _____



Soft boundary

4. A pendulum is 25 cm long. Find its period.

5. A person yells into a canyon. If the canyon is 880 meters across, how long will it take the echo to return to you?

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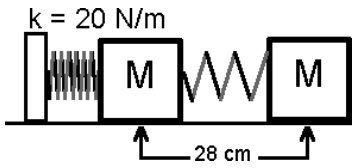
6. If it has a frequency of 1.75 Hz, find the value of M. (You don't have an equation for the frequency of a spring, but you can convert to something you do have an equation for.)



7. The number of cycles per second is known as the _____.
8. The number of seconds per cycle is known as the _____.
9. The maximum displacement or disturbance from its equilibrium position is known as the _____.
10. The distance from one point on a wave to the same point on the next wave is known as the _____.
11. A fertilized egg is known as a _____.
12. A sperm or egg is known as a _____.
13. If you decrease the length of a pendulum, the period will increase or decrease?
14. If you increase the amount of mass on a pendulum the period will increase or decrease?
15. If you increase the mass on a spring, its period will increase or decrease?
16. If you increase its amplitude for a spring, its period will increase or decrease?
17. If you decrease the spring constant for a spring, its period will increase or decrease?
18. If you increase the spring constant for a spring, its frequency will increase or decrease?