Reg: Due: Wed., Mar 1 (Assigned: Mon., Feb 27)
REGULARS ONLY

Harmonic Review 1 – Reg Only

1. Use the standing wave diagram at the right to answer the following.
   A. Find its period B. Find its wavelength (if a sound wave).

   C. What harmonic is this? ____ D. Draw the wave form on the harmonic.
   E. What do we call the end that moves? (see notes on standing waves.)
   F. What do we call the end that doesn't move?
   G. Find the natural frequency of this harmonic.

   H. Find the frequency of harmonic 3. I. How many wavelengths long is this harmonic?

   J. Can we hear its fundamental? _____

680 Hz

2. If a sound's natural frequency is 40 Hz find H_7. (How many nodes does H_7 have?____)

3. A low note for a bass (man) is a low A on the bass clef = 110 Hz. Find its wavelength (remember: it's a sound wave).

4. A medium note for a soprano (woman) is a E at the top of the treble clef. Find its wavelength.

5. So, which has a longer wavelength? Low or high notes?

6. Which will create sounds of longer wavelength: birds or elephants?

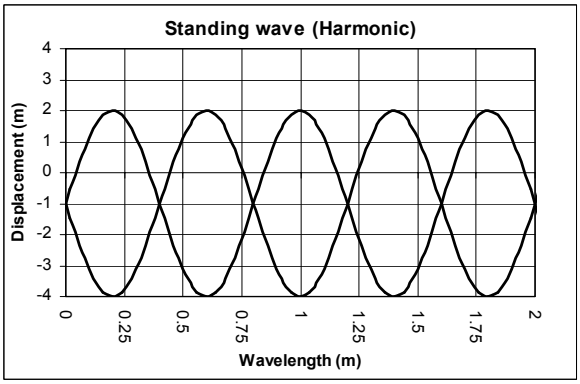
7. A wave moves forward and oscillates right to left. What kind of wave is it?

8. A 140 g mass is suspended on a string. As a result it stretches 8 cm. Find the spring constant for this spring.

9. Use the graph on the right to answer the following.
   A. Find its amplitude.
   B. Find the wavelength of the harmonic.

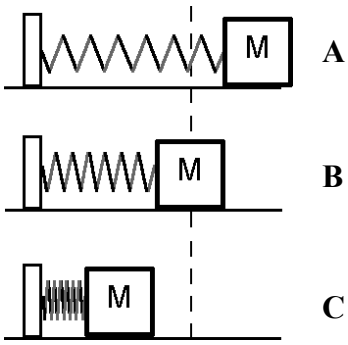
   C. What harmonic is shown?
   D. Draw the waveform on the graph.
   E. If it is a sound wave, find its frequency.

   F. Find the fundamental frequency for this space. (Find H_1)



   G. Using the frequency you found in E, find its period.

Oscillating Spring



10. Use the graphic at the right to answer the following.

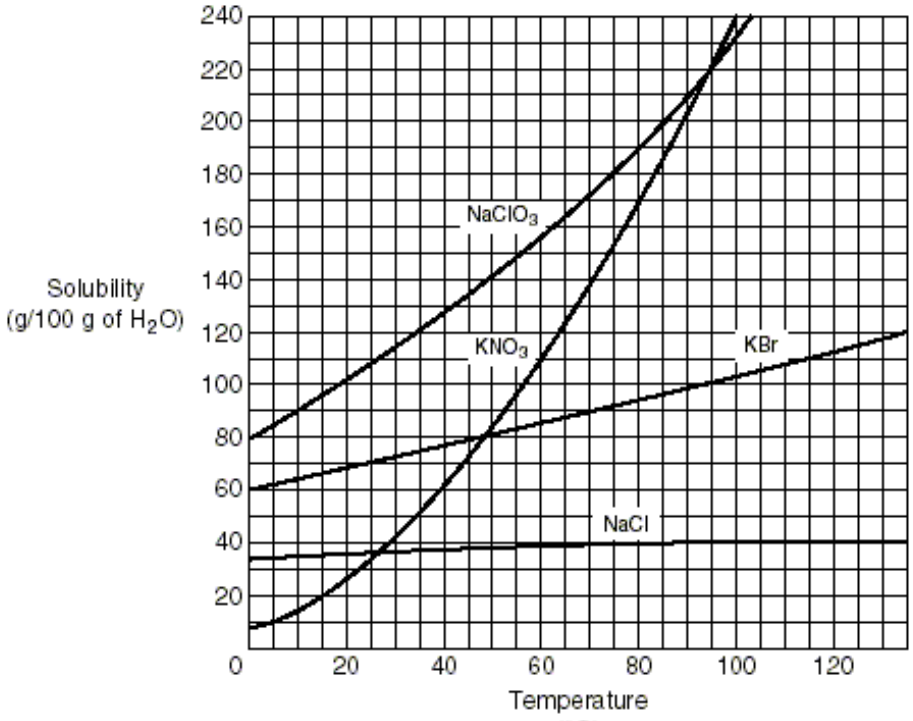
A ____ Ek = max	D. ____ x = -A	G._____ where it will stop
B. ____ v = 0	E. ____ a = 0	H._____ F = 0
C. ____ F = +max	F. ____ Ep = 0	I. ____ a = -max

11. If the spring moves 10 cm from A to C, what is its amplitude?

12. How far will it move in one period?

13. How much Potassium Bromide can 100g of H_2O hold at 90°C?

14. How much Sodium Chlorate can 250 g of H_2O hold at 40°C?



15. Unsaturated (U); Saturated (Sa); Supersaturated (SS)?
    A. ____ 60g of KBr at 80°C?
    B. ____ 180g of $NaClO_3$ at 60°C?
    C. ____ 90 g of KNO_3 at 70°C?
    D. ____ 40 g of table salt at 10°C?

16. Meiosis makes diploid or haploid cells?

17. Gametes are diploid or haploid?

18. A cell with 70 chromosomes undergoes mitosis, the daughter cells have how many chromosomes?

19. A cell undergoes meiosis and the daughter cells have 24 chromosomes. The parent cells had how many chromosomes?

20. Absorption, Reflection, Refraction, or Diffraction?

If a wave hits a hard wall, it bounces off by:	Tile or marble makes for a loud room by:
If a wave hits a soft boundary, it dies by:	Eyeglasses magnify objects by:
A wave bends around a corner by:	Dark lines between your almost closed fingers by:
A wave bends inside a boundary by:	Light comes back from a mirror by:
Carpet can keep a room quiet by:	