A-day: Due Thurs., May 17 (Assigned 5/15)
B-day. Due Fri., May 18 (Assigned 5/16)

Spring Final Review 2

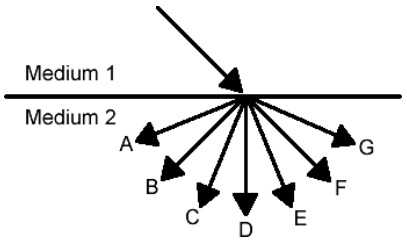
Make sure that you redo Electricity 8. There are many concepts from the final on that homework. Read the book for the answers. Read well and completely.

1. Read about beats again.
   A) Beats occur because of two waves i_____ with each other.
   B) Are the beat parts (the loud parts) constructive or destructive i_____?
   C) How many beats will be heard if sound 1 is 460 Hz and sound 2 is 460 Hz?
   D) How many beats will be heart is sound 1 is 530 Hz and sound 2 is 540 Hz?

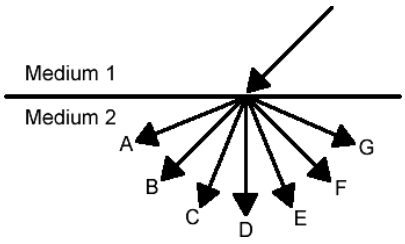
2. Which has a longer frequency: x-rays or gamma rays?
3. Which has a higher frequency: radio waves or microwaves?
4. Which is faster: green light or red light?
5. How are red light and blue light the same?

6. How are red light and blue light different (*2 ways: and, no, "color" is not one*)?

7. If medium 1 is glass and medium 2 is air which way will the light ray r_____?

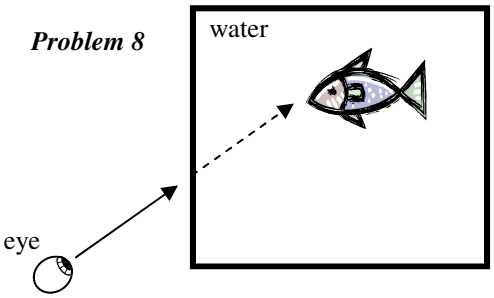


8. If medium 1 is air and medium 2 is also air, which way will light ray go?



9. So, when does light refract?

Problem 8



10. In the diagram at the right draw where the fish "seems" to be.
11. Does the fish seem to be closer or farther away?

12. Increase or decrease?
    A) The electric force: when two charges get closer together?
    B) The electric force: when one of the charges gets bigger?
    C) The electric force: when the two charges get farther apart?
    D) The period of a pendulum: when you shorten the string?
    E) The period of a pendulum: when you increase the amplitude?
    F) The frequency of light as color changes from red to blue?
    G) The period of a sound wave as the wavelength increases?
    H) The current in a circuit if the resistance decreases?
    I) The current in a circuit if the voltage decreases?
    J) The voltage in a circuit if the resistance increases?
    K) The magnetic force if two magnets get closer together?

13. Attract or repel?
    A) Two protons?
    B) A proton and an electron?
    C) A positive charge and a negative charge?
    D) A proton and a neutron?
    E) A negative charge and a positive charge?
    F) A magnetic north pole and a magnetic south pole?
    G) Two magnetic south poles?

14. Fill in the following chart for following electricity variables.

Symbol	Variable Name	Units	What is it?
V			
I			
R			
P			
F_E			

15. *If the resistance in a wire doubles, by how much does the current change?*
    A) Write the equation that relates current, voltage, and resistance.

    B) "If resistance doubles…" put in "2R" for "R".

    C) What does I equal now?

    D) By how much did the current change?

16. If the distance between two charges triples, by how much does the electric force change?
    A) Write the equation for electric force.

    B) Put in "(3r)" in for r.

    C) Do the math (remember to square).

    D) By how much did the force change?

17. (*On your own*) A positive charge is moving thru a magnetic field. If the velocity of the charge is halved, by how much does the magnetic force on it change?
    Before (write equation): After (with change): Your conclusion:

18. If the distance between two charges is reduced by 3, by how much does the electric force change?
    Before (write equation): After (with change): Your conclusion: