A-day: Due Tues., May 11 (Assigned 5/11)
B-day. Due Wed., May 16 (Assigned 5/14)

Spring Final Review 1

OK—getting ready for the final. Either use the notes I've given you, the book, the Internet, whatever. If you have to take the final—take this seriously! Learn it!

1. Process of a gas turning to a liquid:

2. Process of a liquid turning to a solid:

3. Process of a solid turning to a gas and bypassing the liquid phase:

4. Process of a liquid turning to a gas:

5. Fill in the following table for the following harmonic motion and wave quantities.

Symbol	Variable Name	Units	What is it?
λ			
v			
f			
T			
D			
A			
dB			

6. What is the speed of sound?

7. If a sound wave has a frequency of 100 Hz, find its wavelength.

8. If a sound wave has a frequency of 200 Hz, find its wavelength.

9. How does the frequency in Q8 compare to Q7?

10. How did the wavelength in Q8 compare to Q7?

11. So, if the speed of a wave stays constant, if the wavelength triples, how does the frequency change?

12. A bolt of lightening flashes in the night sky! If it takes 3.5 seconds for the thunder to get to you, how far away is the impending storm?

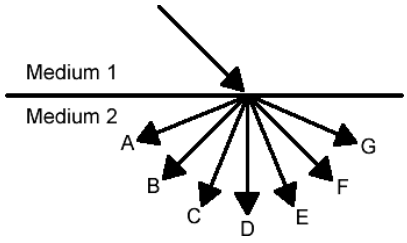
13. A person stands below the roof of a very tall cathedral. To figure out the high the cathedral is, the person calls on their vast knowledge of physics. They yell very loud. 1.2 seconds later, the echo returns to them.
    A) How fast did their sound take to go up and back?
    B) Is the 1.2 seconds the time for the sound to get to the roof or to the roof and back?
    C) Calculate the height of the roof.

14. A) Draw a convex and a concave lens in the space below.
    B) Label them as convergent or divergent.
    C) Draw three parallel rays coming in to them from the left.
    D) Label their focal points as real or virtual.

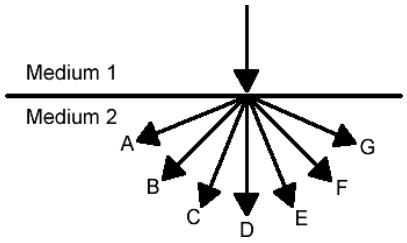
Convex lens **Concave lens**

15. Which of the above lenses can produce a real image?
16. What do we call a ray of light bending when it changes from medium to another?

17. In the picture below, if medium 1 is air (n = 1.00) and medium 2 is water (n = 1.33), which path will the light ray take?



18. In the picture below, if medium 1 is water (n = 1.33) and medium 2 is air (n = 1.00), which path will the light ray take?



19. There are two color schemes. Fill in the following comparison table.

Question	RGB	CMYK
What do the letters stand for?		
Uses lights or paints?		
What color is the background?		
How do you make white?		
How would you make magenta?		
How would you make blue?		

20. What is diffraction?

21. What is reflection?

22. What is interference?

23. What is absorption?