2008 Questions to prepare for test for 5_22

OK—I've seen the test. This homework will try to fill in some gaps I found.

1) Make sure you understand magnetic domains. The questions on the test are easy if you understand domains.
2) READ the chapters, especially 23.
3) To teach you this next concept,
   A) Please read p. 648. (We've gone over this.)
   B) Look at the diagram on p. 767. Describe the strength of the magnetic field around the magnets. (Where is it strong; where is it weak, etc).
4) Look at the diagram of the earth's magnetic field on p. 768.
   A) Where is the magnetic strength of the earth's magnetic field the strongest?
   B) Where is it parallel to the earth?
5) Make sure you know these equations: $F = qvB$ and $F = BI\ell$.
6) Know the ways to induce current on p. 796.
7) Read p.814 and 815 well.
8) Q 9 p. 821

9) Q 11 on p. 821

10) What is Planck's constant?

11) What does Planck's constant prove?

12) What is quantization of energy?

13) Describe the photoelectric effect.

14) What does the photoelectric effect prove about atoms and energy?

15) What does the Compton effect prove about light?

16) After a photon strikes an electron, what happens to the photon? (Be specific.)

17) Describe J.J. Thomson's model of the atom. (*Note: The "watermelon model" has also been called the "plum pudding model*").

18) Describe Rutherford's model of the atom.

19) What did Rutherford's experiment prove?

20) How?

21) Describe Bohr's model of the electron.

22) What is the difference between absorption spectrum and emission spectrum? (*Again, be specific. You MUST know the difference between absorption and emission, too.)*

23) What do spectral lines prove about the atom?

24) Is light a wave or a particle?

25) What are de Broglie wavelengths?

26) Are you a wave or a particle?

27) What is Heisenberg's uncertainty principle?

28) Describe the quantum mechanical model of the atom.

29) Q 40 p. 857