Chapter 3: Atomic Structure Test Review

1. Who was the man who lived from 460B.C.–370B.C. and was among the first to suggest the idea of atoms?

2. Define an atom.

3. What is the law of constant composition?

4. State Dalton's atomic theory.

5. Know what Millikan did?

6. How does the mass on an electron compare to the mass of a proton

7. What did Chadwick Discover?

8. Know the charge, mass and location of all 3 subatomic particles.

9. Know what Rutherford's model of the atom would look like.

10. Know what the atomic number and mass number represents. When given an isotope be able to calculate all 3 subatomic particles.

11. What is the approximate mass of a neutron, in amu?

12. An element has an atomic number of 86. The number of protons and electrons in a neutral atom of the element are

13. The sum of the protons and neutrons in an atom equals the ____.

14. What does the number 14 in the name Carbon-14 represent?

15. All atoms of the same element have the same ____.

16. What is the charge of a cation?

17. Know the difference between a cation and an anion

18. Isotopes of the same element have different ____.

19. Be able to determine the symbol of the element, the number of protons, and the number of electrons and neutrons

20. Given the symbol of an element be able to determine the # of protons, neutrons, and electrons.

21. How do the isotopes hydrogen-1 and hydrogen-2 differ?

22. The average atomic mass of an element depends upon the ____.

28. be able to define alpha beta and gamma radiation and compare the penetrating power of each.

29. Be able to use the formulas for alpha and beta decay to determine either reactants or products.

30. What particle decomposes to produce the electron of beta radiation?

31. When something decays by emitting an alpha particle, what would it become (give an example)

32. To be stable, atoms with more than 20 protons need increasingly more

33. Given all the isotopes of an element, be able to calculate the average atomic mass

34. Use the periodic table to determine how many protons, neutrons, and electrons are present in given atoms.

35. Why do nuclei need neutrons to be stable?

36. Write the nuclear reaction for given radioactive decays.

37. The half-life of sodium-24 is 15 hours. If you start with a sample of 10.00-g of pure sodium-24, how much of it will still be present after 93 hours? (4 points)\

38. Explain how Rutherford used the results of his alpha-scattering experiments to challenge Thomson's plum pudding model of the atom.

39. Illustrate how Rutherford's model of the atom differs from the plum pudding model.