Chemistry A Ch. 5&6 Practice Test

Matching

Match each item with the correct statement below.

a.	electronegativity	f.	periodic law
b.	ionization energy	g.	cation
c.	atomic radius	h.	period
d.	metal	i.	group
e.	transition metal	j.	electrons

- 1. horizontal row in the periodic table
- 2. vertical column in the periodic table
- 3. A repetition of properties occurs when elements are arranged in order of increasing atomic number.
- 4. type of element that is a good conductor of heat and electric current
- 5. type of element characterized by the presence of electrons in the d orbital
- 6. one-half the distance between the nuclei of two atoms when the atoms are joined
- 7. type of ion formed by Group 2A elements
- 8. subatomic particles that are transferred to form positive and negative ions
- 9. ability of an atom to attract electrons when the atom is in a compound
- 10. energy required to remove an electron from an atom

Short Answer

- 11. Which group of elements in the periodic table is known as the alkali metals?
- 12. Which group in the periodic table is known as the noble gases?
- 13. An element has an atomic number of 80. How many protons and electrons are in an atom of the element?

14. In terms of the periodic law, explain which two of these elements are most similar: sodium (element 11), phosphorus (element 15), and sulfur (element 16).

- 15. What can you predict about the properties of xenon and helium, both in Group 18 in the periodic table? Why?
- 16. Why is the second ionization energy greater than the first ionization energy?
- 17. Give 3 examples each of metals, nonmetals and metalloids.
- 18. Who put the elements in order of increasing atomic number on the periodic table?
- 19. What are the radioactive elements with atomic numbers from 90 to 103 in the periodic table called?
- 20. What are the elements with atomic numbers from 58 to 71 in the periodic table called?
- 21. Because the first energy level contains only the 1s sublevel, the number of elements in this period is

- 22. Elements in which the *d*-sublevel is being filled have the properties of
- 23. The alkali metals belong to the _____-block in the periodic table.
- 24. How do scientists determine the radius of an atom?
- 25. Write the chemical symbol and tell what kind of ion the following atoms will form: B, I, Po, N, Be, F, Rb,

Numeric Response

- 26. How many electrons are in a rubidium ion (Rb^+) ?
- 27. What is the usual charge on an ion from Group 7A?
- 28. How many electrons does the ion Ca^{2+} contain?

Essay

29. Describe the trends in the atomic size of elements within groups and across periods in the periodic table. Provide examples.

30. Explain how and why ions form. Provide examples.

31. Describe the trends in first ionization energy within groups and across periods in the periodic table. Provide examples.

32. Positive ions are smaller than the atoms from which they are formed, but negative ions are larger than the atoms from which they are formed. Explain why this is so.

33. Describe the trends in electronegativity within groups and across periods in the periodic table. Provide examples.