

Name \_\_\_\_\_

Period \_\_\_\_\_

**Honors Chemistry Practice Test  
Periodic Table**

**Form P**

**Part I:** Define the following terms.

Metal

Non-metal

Metalloid/Semi-metal

Isoelectronic

Family

Group

Period

Shielding

Cation

Anion

Atomic radii (what is its trend?)

Ionic radii (what is its trend?)

Ionization energy (what is its trend?)

Electron affinity (what is its trend?)

**Part II: Answer the following questions either true or false.**

1. \_\_\_\_\_ The s and p orbitals of the noble gases are always empty.
2. \_\_\_\_\_ The electron configuration of an atom is related to its reactivity.
3. \_\_\_\_\_ The ionization energy of the noble gases is very low.
4. \_\_\_\_\_ The atomic radii for elements on the right side of the periodic table is very large.
5. \_\_\_\_\_ An alkali metal will have a very high first ionization energy.

**Part III:** Matching. Match the following statements with the family that they best represent.

- A. Alkali Metal      B. Alkaline Earth Metal      C. Halogens      D. Noble Gas  
 E. Transition Metals

1. \_\_\_\_ Brittle metals that react with acids to form hydrogen gas.
2. \_\_\_\_ Reacts violently with water
3. \_\_\_\_ All clear, colorless, odorless gases.
4. \_\_\_\_ Fluorine, chlorine, bromine, iodine, and astatine.
5. \_\_\_\_ Very colorful and sometimes expensive metals.
6. \_\_\_\_ Rubidium
7. \_\_\_\_ Burns in air to form oxides with the formula of MO.
8. \_\_\_\_ Copper
9. \_\_\_\_ Almost always never react.
10. \_\_\_\_ Calcium

**Part IV:** Draw electron configurations for the following Ions and tell which noble gas it is isoelectronic with:

- |                     |          |
|---------------------|----------|
| 1. Br <sup>-</sup>  | 1. _____ |
| 2. O <sup>2-</sup>  | 2. _____ |
| 3. Al <sup>3+</sup> | 3. _____ |
| 4. Li <sup>+</sup>  | 4. _____ |
| 5. N <sup>3-</sup>  | 5. _____ |

**Part V:** Lab Stuff

After performing an experiment the following data was recorded for a procedure dealing with chemical reactivity. Aqueous solutions of diatomic elements were mixed with sodium salts of the same elements. N.R. stands for no reaction and ppt. means a precipitate was observed.

	X <sub>2</sub> (aq)	Y <sub>2</sub> (aq)	Z <sub>2</sub> (aq)
NaX	N.R.	Reaction	Reaction
NaY	N.R.	N.R.	Reaction
NaZ	N.R.	N.R.	N.R.

**True/False**

1. Element Z is the most reactive element.
2. Element X cannot be replaced in a chemical reaction.
3. The activity series for this family is Z > Y > X
4. Write balanced chemical equations for the three reactions that occurred.