

### **Periodic Trends Worksheet #3**

- 1) Rank the following elements by increasing atomic radius:  
calcium, iron, neon, nitrogen, silicon
- 2) Rank the following elements by increasing electronegativity:  
calcium, iron, neon, nitrogen, silicon
- 3) Why does iodine have a larger radius than fluorine?
- 4) Which two elements would behave the same? Why? K, P, Br, Na, Fe
- 5) Indicate whether the following properties increase or decrease from left to right across the periodic table.
  - a) atomic radius (excluding noble gases)
  - b) ionization energy
  - c) electronegativity
- 6) What trend in atomic radius occurs down a group on the periodic table? What causes this trend?
- 7) What trend in ionization energy occurs across a period on the periodic table? What causes this trend?
- 8) Circle the atom in each pair that has the largest atomic radius.

a) Al or B	d) Na or Al
b) S or O	e) Br or Cl
c) O or F	f) Mg or Ca
- 9) Circle the atom in each pair that has the greater ionization energy.

a) Li or Be	d) P or Ar
b) Ca or Ba	e) Cl or Si
c) Na or K	f) Li or K
- 10) Define electronegativity.
- 11) Circle the atom in each pair that has the greater electronegativity.

a) Ca or Ga	d) Ba or Sr
b) Br or As	e) Cl or S
c) Li or O	f) O or S

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