

***Ions and Electron Configurations of Ions***

1. How many valence electrons are in the following elements?

a. Li \_\_\_\_\_

f. Si \_\_\_\_\_

b. Br \_\_\_\_\_

g. Ne \_\_\_\_\_

c. N \_\_\_\_\_

h. O \_\_\_\_\_

d. Ba \_\_\_\_\_

i. He \_\_\_\_\_

e. Kr \_\_\_\_\_

j. Sn \_\_\_\_\_

2. How many core electrons in the following atoms?

a. O \_\_\_\_\_

b. Cl \_\_\_\_\_

c. Ca \_\_\_\_\_

3. What would be the most likely charge on the following atoms if they lost or gained electrons and became ions?

a. Li \_\_\_\_\_

g. Ne \_\_\_\_\_

b. Br \_\_\_\_\_

h. O \_\_\_\_\_

c. N \_\_\_\_\_

i. Al \_\_\_\_\_

d. Ba \_\_\_\_\_

j. Zn \_\_\_\_\_

e. I \_\_\_\_\_

k. Ag \_\_\_\_\_

f. Si \_\_\_\_\_

4. Provide full electron configurations for the following ions.

a.  $\text{Mg}^{+2}$  \_\_\_\_\_

Which **atom** is it isoelectronic with? \_\_\_\_\_

Which **ions** could it be isoelectronic with? \_\_\_\_\_

Name \_\_\_\_\_

Chemistry, Period \_\_\_\_\_

b.  $P^{-3}$  \_\_\_\_\_

Which **atom** is it isoelectronic with? \_\_\_\_\_

Which **ions** could it be isoelectronic with? \_\_\_\_\_

c.  $O^{-2}$  \_\_\_\_\_

Which **atom** is it isoelectronic with? \_\_\_\_\_

Which **ions** could it be isoelectronic with? \_\_\_\_\_

d.  $Ba^{+2}$  \_\_\_\_\_

Which **atom** is it isoelectronic with? \_\_\_\_\_

Which **ions** could it be isoelectronic with? \_\_\_\_\_

e.  $Se^{-2}$  \_\_\_\_\_

Which **atom** is it isoelectronic with? \_\_\_\_\_

Which **ions** could it be isoelectronic with? \_\_\_\_\_

5. Provide core notation electron configurations for the following ions.

a.  $V^{+3}$  \_\_\_\_\_

b.  $Fe^{+3}$  \_\_\_\_\_

c.  $Cu^{+1}$  \_\_\_\_\_

d.  $Mn^{+4}$  \_\_\_\_\_