



9. Circle the atom in each pair that has a **WEAKER** attraction for valence electrons.

a. **Ca** or Ga

d. **Ba** or Sr

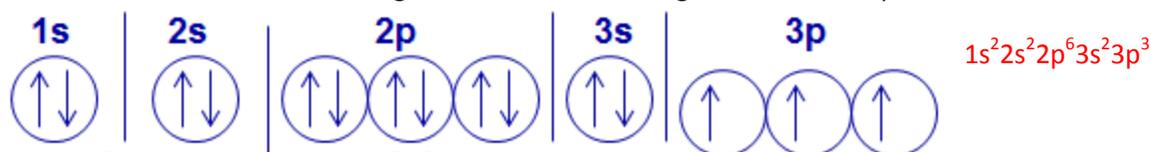
b. Br or **As**

e. Cl or **S**

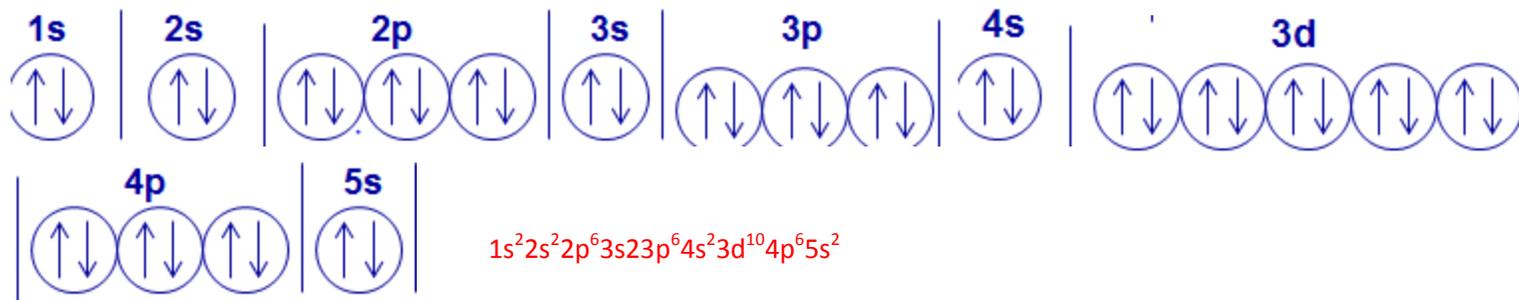
c. **Li** or O

f. O or **S**

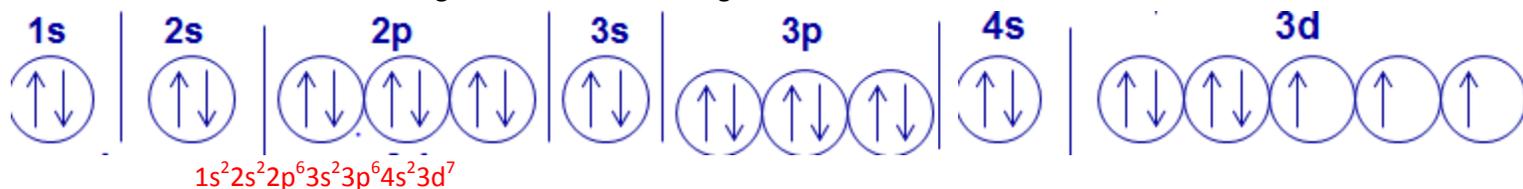
10. Write the orbital diagram and electron configuration for Phosphorus:



11. Write the orbital diagram and electron configuration for Strontium:



12. Write the orbital diagram and electron configuration for Cobalt:



13. Classify each as **alkali metals**, **alkaline earth metals**, **transition metals** or **metalloids** based on its position on the periodic table:

a. Potassium – **alkali metal**

d. Strontium – **alkaline earth metal**

b. Antimony (Sb) – **metalloid**

e. Gold – **transition metal**

c. Zinc – **transition metal**

f. Boron – **metalloid**

14. Explain why Sodium is very reactive while Krypton is not reactive at all. (think about oxidation #'s and valence electrons)

**Sodium is very reactive because in order for it to be stable, it only needs to give away ONE electron; Krypton is not reactive at all because it is already one of the most stable elements having 8 valence electrons and it doesn't need to give away or steal any electrons.**

15. What atom is a non-metal, LIQUID, halogen that can be found in the period 4?

**Bromine**

16. What atom is a solid, alkali metal with the largest atomic radii?

**Francium**

17. What atom is a non-metal, noble gas with two valence electrons?

**Helium**

18. How are Strontium and Calcium similar?

**They are in the same family (alkaline earth metals); they have 2 valence electrons.**

19. Which atom has a stronger attraction to electrons: **Chlorine** or Phosphorus?

20. Which atom requires less energy to remove valence electrons: **Calcium** or Aluminum?