

## Electron Configurations Review:

1. Which has a higher energy level? 4s or 3d?

3d has higher energy. This is why you fill the 4s sublevel before the 3d.

2. What is the electron configuration for Zn?

$1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10}$

## Chapter 5:

1. Define ionic and covalent compounds.

ionic: formed from ions (metals + nonmetals)

covalent: formed from atoms which share electrons, typically non-metals.

2. What is the octet rule?

elements will gain or lose electrons to obtain an octet, which is eight electrons.

3. What are valence electrons? How many valence electrons does Zn have based on the electron configuration that you wrote above?

electrons in the outer energy level that are available for chemical reactions. Zn has 2 valence electrons.

4. What forms positive ions and what forms negative ions? Give a specific example of each.

metals form positive ions.  $Na^+$

nonmetals form negative ions.  $Cl^-$

5. What is the overall charge of ionic compounds? Give a few of their properties.

neutral. high melting point, may or may not be soluble in water.