

**REVIEW: Electron Configuration and Periodic Table** Name: \_\_\_\_\_

- In general, the atomic mass of elements increases as the atomic number increases. Find the pairs of elements in the periodic table that are exceptions to this generalization.
- Write the symbol for the elements in the following locations:
  - period 3, Group IIIA
  - period 1, Group VIIIA
  - period 4, Group IIB
  - period 6, Group VA
- Name the third period element that has a half-filled  $p$  orbital.
- Identify the Group (by group number and Family (if applicable)) for the following elements on the periodic table that have the following "outer electron configurations".
  - $s^2$
  - $s^2p^2$
  - electrons filling the  $d$  orbitals
  - $s^2p^6$
- How many Valence electrons are in the following?
  - elements of the oxygen family (same column)
  - Na atom
  - The element in Group IIIA, period 5
  - The element with the electron configuration  $1s^2 2s^2 2p^4$
- Predict the number of protons and electrons in stable IONS of radium and iodine.
- What does the principle quantum number,  $n$ , designate?
- Predict the common ions formed when atoms of the elements listed gain or lose electrons. Then name the noble gas with which the ion is isoelectronic.
  - magnesium
  - chlorine
  - aluminum
  - potassium
  - sulfur
  - barium
  - phosphorus

