Chemistry 11
Atomic Theory Unit Review

Directions: Answer in the space provided. Have fun and enjoy the chem.-is-try 😊

1. For each of the following, calculate how many protons, neutrons and electrons.
   a. Ca
   b. Sn
   c. Cl^-
   d. Zn^{+2}
   e. Cs

2. Determine the average atomic mass of the following:
   a. 20.5% ^{70}\text{Ge}, 27.4% ^{72}\text{Ge}, 7.8% ^{73}\text{Ge}, 36.5% ^{74}\text{Ge}, 7.8% ^{76}\text{Ge}
   b. 48.9% ^{64}\text{Zn}, 27.8% ^{66}\text{Zn}, 4.1% ^{67}\text{Zn}, 18.6% ^{68}\text{Zn}, 0.6% ^{70}\text{Zn}

3. Write the electron configuration of the following (No core notation):
   a. Ca
   b. Sn
   c. Ca^{+2}
   d. S^{2-}

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4. Write the electron configuration using core notation:
   a. Zn
   b. Ga
   c. Fe$^{+3}$
   d. P$^{-3}$

5. How many valence electrons in the following:
   a. O _____
   b. Zn$^{+2}$ _____
   c. S$^{-2}$ _____
   d. Cr$^{+3}$ _____
   e. Na _____

6. Name the six major families (groups) from the periodic table

7. What are the periodic trends?
8. What does electronegativity mean?

9. What is ionization energy?

10. Explain why the atomic radius decreases as you move across the periodic table from left to right.

11. Write the Lewis Dot Diagrams for the following:
   a. $CO_2$

   b. $NH_3$

   c. $CH_4$

   d. $CH_2O$