

## Warm-Up #28

1. Which group contains atoms that are stable, thus are inert (i.e. unreactive)?
2. **Metals** typically have (**low/high**) electronegativities and (**low/high**) ionization energies, thus they (**gain/lose**) electrons forming (**positive/negative**) ions known as (**cations/anions**). Therefore, the most reactive metal group is the one that (**gains/loses**) electrons the easiest, making **Group # \_\_\_\_\_** the most reactive metal family.
3. **Nonmetals** typically have (**low/high**) electronegativities and (**low/high**) ionization energies, thus they (**gain/lose**) electrons forming (**positive/negative**) ions known as (**cations/anions**). Therefore, the most reactive nonmetal group is the one that (**gains/loses**) electrons the easiest, making **Group # \_\_\_\_\_** the most reactive nonmetal family.
4. Draw the dot diagram for each of the following elements.
  - a. Potassium
  - b. Bromine
  - c. Nitrogen
  - d. Argon

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5. The element that has the **smallest** atomic radius is: \_\_\_\_\_

6. The element with the **highest** ionization energy is: \_\_\_\_\_

7. The element with the **highest** electronegativity is: \_\_\_\_\_

8. Name the following:

a.  $\text{Ca}_3\text{N}_2$  \_\_\_\_\_

b.  $\text{S}_4\text{O}_7$  \_\_\_\_\_

c.  $\text{Pb}_3\text{N}_4$  \_\_\_\_\_

d.  $\text{V}(\text{SO}_4)_2$  \_\_\_\_\_

9. Determine the formulas:

a. magnesium phosphate

b. trinitrogen decaoxide

c. Cobalt (III) acetate

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