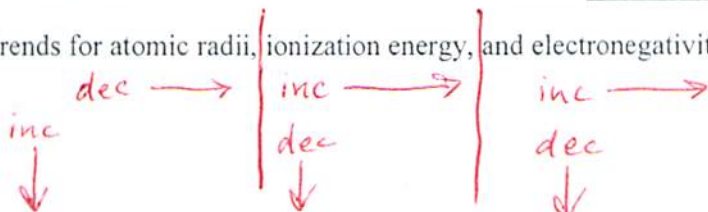


More Periodic Trends Practice

Name: _____

KEY

1. What are the trends for atomic radii, ionization energy, and electronegativity across a period? Down a group?



2. Rank the following elements in order of **largest to smallest** atomic radii: Na, Ar, Rb, S, He

Rb, Na, S, Ar, He

- * 3. Rank the following ions in order of **largest to smallest** ionic radii: Al^{3+} , P^{3-} , Cl^{-} , Mg^{2+}

P^{3-} , Cl^{-} , Mg^{2+} , Al^{3+}

4. Rank the following elements from **largest to smallest** first ionization energy: Sr, Ba, Se, Br, Ar, Ne

Ne, Ar, Br, Se, Sr, Ba

MORE QUESTIONS ON REVERSE SIDE →

5. What does the effective nuclear charge refer to? What are the two things that it is dependent upon?

- actual nuclear charge minus the number of core electrons which "shield" the valence electrons
- how much "pull" a valence electron "feels"

6. Why is the atomic radius dependent upon the addition and subtraction of electrons?

removing/adding electrons affects the overall repulsion between the electrons and the nucleus

7. What is the difference between electronegativity and ionization energy?

electronegativity focuses on the attraction atoms have for electrons, while ionization energy focuses on the energy required to remove an electron

8. What is the relationship between atomic radii in an isoelectronic series?

increasing protons \rightarrow smaller radius

9. How would you calculate the effective nuclear charge felt by a valence electron?

protons - core electrons