

Periodic Trends

Name: _____

1. Rank the following elements by decreasing atomic radius: magnesium, chlorine, aluminum, and phosphorous
2. Rank the following elements by decreasing the first ionization energy: sodium, cesium, francium, and lithium
3. Arrange the following in order of increasing atomic radius: K, Se, Kr, Zn
4. Arrange the following in order of decreasing atomic radius: Pt, At, Ba, W
5. Arrange the following atoms in order of increasing electronegativity: Mg, Al, Cl, Si
6. Arrange the following in order of decreasing electronegativity: S, O, Ne, Al
7. Name the first and the last natural element in group 16 (VIA or 6A).
8. Name the first and the last element in period 3.
9. What characteristics do metalloids have?
10. Why does fluorine have higher ionization energy than iodine?

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Name: _____

Answers

1. Rank the following elements by decreasing atomic radius: magnesium, chlorine, aluminum, and phosphorous

magnesium > aluminum > phosphorous > chlorine

2. Rank the following elements by decreasing the first ionization energy: sodium, cesium, francium, and lithium

lithium > sodium > cesium > francium

3. Arrange the following in order of increasing atomic radius: K, Se, Kr, Zn

Kr < Se < Zn < K

4. Arrange the following in order of decreasing atomic radius: Pt, At, Ba, W

Ba > W > Pt > At

5. Arrange the following atoms in order of increasing electronegativity: Mg, Al, Cl, Si

Mg < Al < Si < Cl

6. Arrange the following in order of decreasing electronegativity: S, O, Ne, Al

O > S > Al > Ne

7. Name the first and the last natural element in group 16 (VIA or 6A).

Oxygen and polonium

8. Name the first and the last element in period 3.

Sodium and argon

9. What characteristics do metalloids have?

Metalloids have characteristics between that of metal and nonmetals.

10. Why does fluorine have higher ionization energy than iodine?

Fluorine has a smaller atomic radius. The valence shell is closer to the nucleus so that the protons can exert a greater pull on the valence electrons.