Review of Periodic Trends

Choose the correct answer for each question.

1. Of the following elements, which one would have the largest radius?

   A. Lithium (Li, atomic #3)

   B. Neon (Ne, atomic #10)

   C. Boron (B, atomic #5)

   D. Nitrogen (N, atomic #7)

2. Of the following elements, which one would have the largest ionization energy?

   A. Sodium (Na, atomic #11)

   B. Hydrogen (H, atomic #1)

   C. Potassium (K, atomic #19)

   D. Cesium (Cs, atomic #55)

3. The elements with the largest atomic radii are found in the:

   A. lower left-hand corner of the periodic table

   B. upper left-hand corner of the periodic table

   C. upper right-hand corner of the periodic table

   D. lower right-hand corner of the periodic table

4. The energy required to remove an electron from an atom is known as:

   A. electron affinity

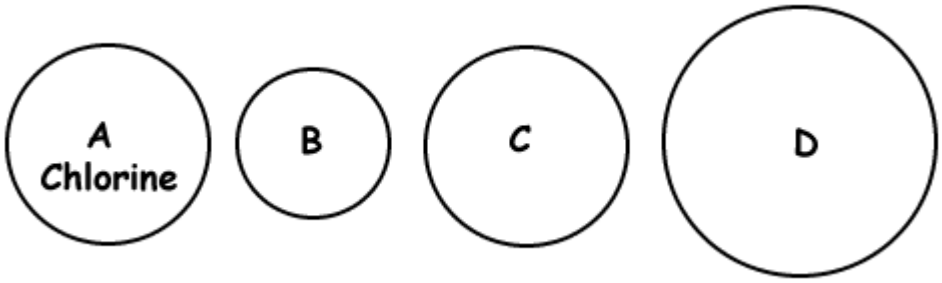
   B. ionization energy

   C. radioactivity

   D. electronegativity

5. Of the following elements, which one would have the smallest radius?

- Bromine (Br, atomic #35)
- Chlorine (Cl, atomic #17)
- Iodine (I, atomic #53)
- Fluorine (F, atomic #9)



6. Given the representation of a chlorine atom, which circle might a chloride ion, Cl^-?

- Circle D
- Circle C
- None of these
- Circle B

7. Of the following elements, which one would have the largest radius?

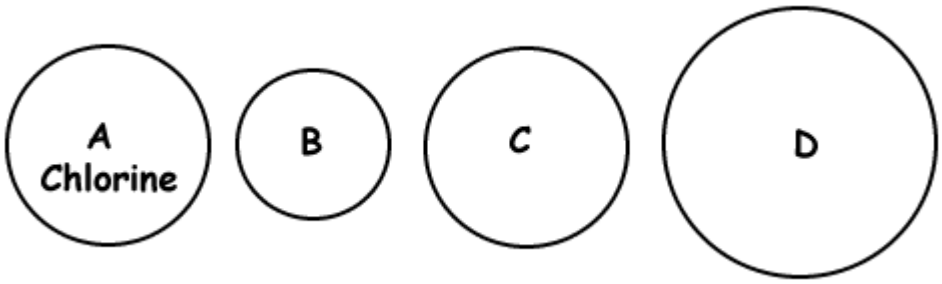
- Hydrogen (H, atomic #1)
- Sodium (Na, atomic #11)
- Potassium (K, atomic #19)
- Cesium (Cs, atomic #55)

8. The most active metals are located in the:

- upper left hand corner of the periodic table
- lower left hand corner of the periodic table
- lower right hand corner of the periodic table
- upper right hand corner of the periodic table

9. As one moves from left to right (→) within a period across the periodic table, the atomic radius of the elements encountered tends to:

- increase
- stay the same
- decrease

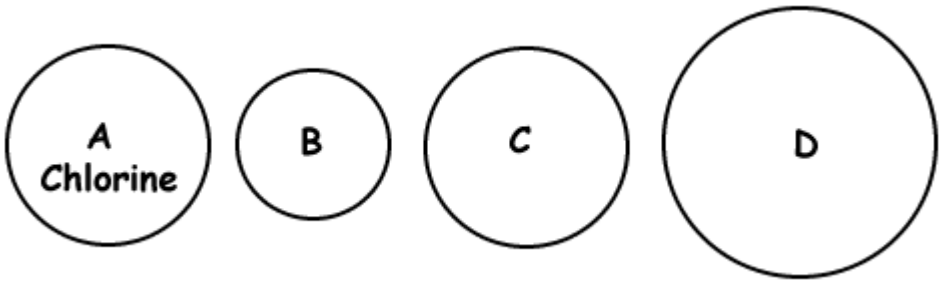


10. Given the representation of a chlorine atom, which circle might represent an atom of fluorine?

- None of these
- Circle C
- Circle B
- Circle D

11. The measure of the attraction that an atom has for electrons involved in chemical bonds is known as:

- ionization energy
- radioactivity
- electron affinity



12. Given the representation of a chlorine atom, which circle might represent an atom of sulfur?

- Circle B
- None of these
- Circle D
- Circle C

13. Generally speaking, the group of elements with the highest first ionization energy is:

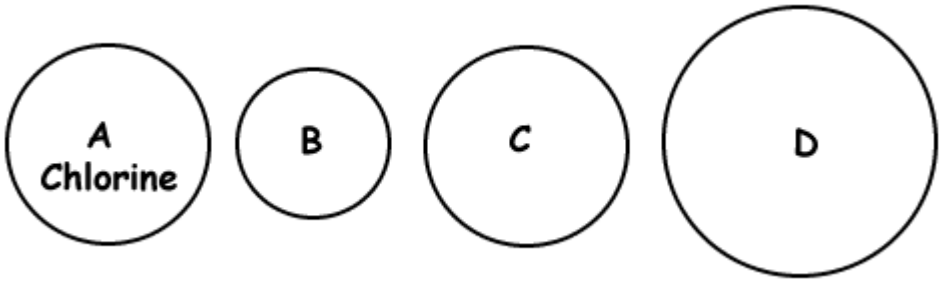
- Group 18
- Group 16
- Group 17
- Group 1

14. Of the following elements, which one would have the smallest ionization energy?

- Lithium (Li, atomic #3)
- Neon (Ne, atomic #10)
- Nitrogen (N, atomic #7)
- Boron (B, atomic #5)

15. Of the following elements, which one would have the smallest radius?

- Nitrogen (N, atomic #7)
- Boron (B, atomic #5)
- Neon (Ne, atomic #10)
- Lithium (Li, atomic #3)



16. Given the representation of a chlorine atom, which circle might represent an atom of bromine?

- Circle B
- Circle D
- Circle C
- None of these

17. As one moves from down (↓) a group on the periodic table, the ionization energy of the elements encountered tends to:

stay the same

decrease

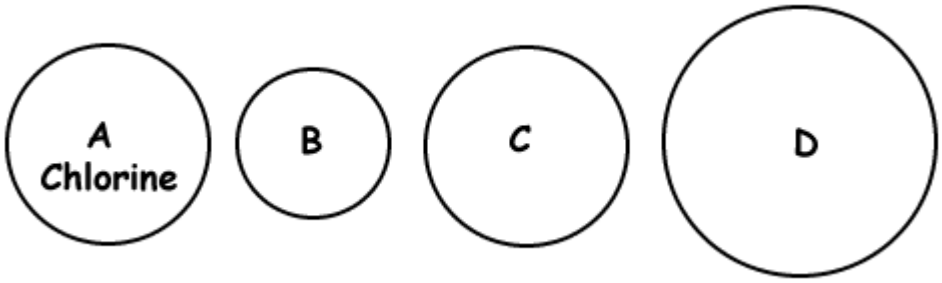
increase

18. As one moves from left to right (→) within a period across the periodic table, the ionization energy of the elements encountered tends to:

increase

decrease

stay the same



19. Given the representation of a chlorine atom, which circle might represent an atom of argon?

Circle C

Circle B

None of these

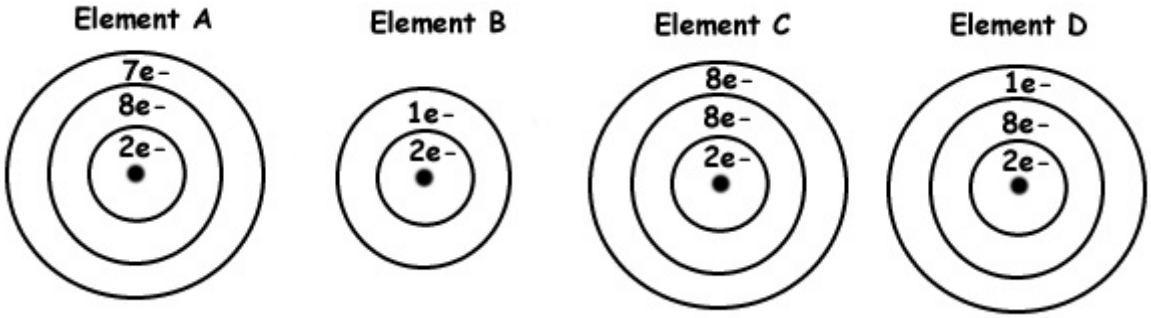
Circle D

20. As one moves from down (↓) a group on the periodic table, the atomic radius of the elements encountered tends to:

decrease

increase

stay the same



21. Which of these elements would have the lowest ionization energy?

Element C

Element A

Element D

Element B