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1.

Which of the following atoms has the most negative electron affinity?

1. S
2. Cl
3. Na
4. Br
5. As

2.

Given the following series of ionization energies for an element, which of the following statements is *correct*?

First ionization: 801

Second ionization: 2427

Third ionization: 3660

Fourth ionization: 25025

- I. This a group III element.
- II. The fourth ionization energy is greatest because the +3 ion is isoelectronic with a noble gas.
- III. Ionization energies 1–3 increase because of the increasing charge of the ion.

1. I, II, and III
2. I and II only
3. I only
4. II only
5. III only

3.

Which of the following elements has the highest first ionization energy?

1. Be
2. B
3. Ba
4. Na
5. C

4.

Elements in Group VIA (O, S, etc) are also known as the

1. transition metals.
2. alkaline earth metals.
3. chalcogens.
4. halogens.
5. alkali metals.

5.

Which of the following elements is considered part of the actinide group?

1. Platinum
2. Bohrium
3. Francium
4. Uranium
5. Erbium

6.

The elements that are filling the 5f subshell are called

1. lanthanides.
2. inner transition elements.
3. actinides.

A. 2 only
B. 3 only
C. 2 and 3 only
D. 1 only
E. 1 and 2 only

7.

Which of the following gases are considered environmental pollutants?

- I. Oxygen
- II. Sulfur dioxide
- III. Nitrogen dioxide
- IV. Argon

1. I and II
2. II and III
3. I and IV
4. II and IV
5. III and IV

8.

What is the most abundant element in the Earth's crust?

1. Silicon
2. Calcium
3. Oxygen
4. Magnesium
5. Iron

9.

The most plausible ranking for sodium, in regard to atomic size, in this list of elements (Na, K, Rb, Cs, Fr) is (1st = smallest, 5th = largest)

1. 1st.
2. 2nd.
3. 3rd.
4. 4th.
5. 5th.

10.

Which of the following elements would be classified as highly reactive?

1. helium
2. sodium
3. gold
4. platinum
5. copper

11.

Which of the following pairs has the smallest difference in their electronegativity values?

1. Al, Br
2. O, Cl
3. Na, Cl
4. Si, S
5. B, F

12.

A substance that speeds up the rate of a reaction but is not consumed in that reaction is called a

1. catalyst.
2. reactant.

3. alloy.
4. metal.
5. halogen.

13.

Of the following elements, which has the highest electronegativity?

1. Na
2. Al
3. Cl
4. Br
5. S

14.

Which of the following lists the elements in order of increasing atomic size?

1. K, Na, Li
2. Mg, Al, Na
3. Na, Mg, Al
4. K, Mg, Na
5. Li, Na, K

15.

Sodium and potassium have similar chemical and physical properties. This is *best* explained by the fact that both elements

1. have relatively low first ionization energies.
2. have low relative atomic masses.
3. are in period 1 of the periodic table.
4. have the same outer electronic configuration.
5. are active metals.

16.

What element is used to transfer oxygen in the body?

1. Iron
2. Hydrogen
3. Sodium
4. Carbon
5. Calcium

17.

Where on the periodic table are the most nonmetallic elements found?

1. Top of Group IB
2. Bottom of Group VIA
3. Top of Group VIIA
4. Bottom of Group IIA
5. Top of Group IA

18.

Which of the following lists metals in order of increasing reactivity?

1. magnesium, zinc, calcium, lithium
2. aluminum, zinc, iron, tin
3. calcium, silver, lithium, zinc
<input checked="" type="checkbox"/> 4. mercury, tin, aluminum, sodium
5. copper, lead, potassium, gold

19.

Which of the following elements would be the least reactive of those listed?

1. potassium
2. lithium
3. calcium
4. magnesium
5. aluminum

20.

In general, atomic radii

1. decrease from left to right in a period and increase down a group.
2. increase from left to right in a period and decrease down a group.
3. increase from left to right in a period and increase down a group.
4. decrease from left to right and decrease down a group.
5. None of the above