Chem1211K Quiz 7 Spring 2014

Name:

1. What is the ground-state electron configuration of the copper(I) ion, ?

|  |  |
| --- | --- |
| A) |  |
| B) |  |
| C) |  |
| D) |  |
| E) |  |

1. Rank the following ions in order of decreasing ionic radius: S2–, O2–, F–, Na+, Mg2+.

|  |  |
| --- | --- |
| A) | S2–, O2–, F–, Na+, Mg2+ |
| B) | O2–, F–, Na+, Mg2+, S2– |
| C) | O2–, S2–, F–, Na+, Mg2+ |
| D) | Mg2+, Na+, F–, O2–, S2– |
| E) | Mg2+, S2–, Na+, F–, O2– |

1. A section of the periodic table with all identification features removed is shown below.

|  |  |  |
| --- | --- | --- |
| V | W | X |
|  | Y | Z |

Which element has the smallest atomic radius?

|  |  |
| --- | --- |
| A) | W |
| B) | Y |
| C) | X |
| D) | Z |
| E) | V |

1. The change in energy for which of the following processes represents the first ionization energy of bromine?

|  |  |
| --- | --- |
| A) |  |
| B) |  |
| C) |  |
| D) |  |
| E) |  |

1. According to the general trend in electron affinities, which group (or family) of elements tend to form the most stable anions in the gas phase?

|  |  |
| --- | --- |
| A) | noble gases |
| B) | Halogens |
| C) | transition metals |
| D) | alkaline earth metals |
| E) | alkali metals |

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

|  |  |
| --- | --- |
| A) | have the same ground-state valence-electron configuration. |
| B) | have low relative atomic masses. |
| C) | are in Period 1 of the periodic table. |
| D) | have relatively low first ionization energies. |
| E) | are active metals. |

1. Of the halogens, which one is liquid at room temperature and atmospheric pressure?

A) fluorine B) chlorine

C) bromine D) iodine

E) fluorine and chlorine

1. Which reaction below represents the electron affinity of Li?

A) Li(g) + e⁻ → Li⁻(g)

B) Li(g) → Li⁺(g) + e⁻

C) Li(g) + e⁻ → Li⁺(g)

D) Li⁺(g) → Li(g) + e⁻

E) Li⁺(g) + e⁻ → Li(g)

1. Which periodic table group contains only metals?

A) 8A B) 2A

C) 6A D) 7A

E) 5A

1. An alkaline earth metal forms a compound with oxygen with the formula \_\_\_\_\_\_\_\_\_\_.

(The symbol M represents any one of the alkaline earth metals.)

A) MO

B) M2O

C) MO2

D) M2O2

E) MO3