

CHEM 120 Homework 3. Chapter 3

- In the modern periodic table, the elements are arranged according to increasing _____.
a. atomic masses b. number of neutrons c. atomic number d. mass number
- How many periods are found on the periodic table?
a. 2 b. 7 c. 18 d. 32
- Which period contains the element Cesium?
a. 2 b. 4 c. 6 d. 7
- Where are the alkaline earth metals located on the periodic table?
a. Group 1 (IA) b. Group 2 (IIA) c. Group 13 (IIIA) d. Group 14 (IVA) e. Group 17 (VIIA)
- Which one of the following is not a representative element
a. Na b. As c. Ca d. Fe e. Cl
- How many orbitals are in an s sublevel? How many in a p sublevel?
a. 2;6 b. 1;1 c. 1;3 d. 3;5
- Which of the following correctly gives the electron capacity of a principal energy level in terms of the number n ?
a. n b. $2n$ c. $2n + 2$ d. n^2 e. $2n^2$
- What requirement must be met in order for two electrons to coexist in the same orbital?
a. they go to a s orbital
b. they go to a p orbital
c. they must have opposite spins
d. they must have parallel spins
- How many valence electrons are present in an atom of silicon?
a. 2 b. 3 c. 4 d. 5 e. 7
- The electronic configuration in an atom of argon,
a. $1s^2 2s^2$
b. $1s^2 2s^2 2p^6$
c. $1s^2 2s^2 2p^6 3s^2 3p^6$
d. $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6$
- Common valence electron configuration of halogens
a. ns^1 b. ns^2 c. $ns^2 3p^2$ d. $ns^2 np^3$ e. $ns^2 np^5$
- What is not isoelectronic with K^+ ?
a. S^{2-} b. Ar c. Cl^- d. Na^+ e. Ca^{2+}
- Which of the following atoms has the biggest size (radius)?
a. Na b. Al c. Cl d. Rb e. I
- Which of the following elements has the highest ionization energy?
a. Li b. B c. O d. F e. Ne
- Which one of the following elements has the highest electron affinity?
a. Li b. K c. Kr d. O e. Cl
- What charge is found on a ion from Al?
a. +1 b. -2 c. +3 d. -3