Name: **MC Practice #6**

1. Which particles have approximately the same mass?

   (1) alpha particle and beta particle
   (2) alpha particle and proton
   (3) neutron and positron
   (4) neutron and proton

2. Which phrase describes an atom?

   (1) a negatively charged nucleus surrounded by positively charged protons
   (2) a negatively charged nucleus surrounded by positively charged electrons
   (3) a positively charged nucleus surrounded by negatively charged protons
   (4) a positively charged nucleus surrounded by negatively charged electrons

3. An orbital is defined as a region of the most probable location of

   (1) an electron (2) a neutron
   (3) a nucleus (4) a proton

4. The bright-line spectrum of an element in the gaseous phase is produced as

   (1) protons move from lower energy states to higher energy states
   (2) protons move from higher energy states to lower energy states
   (3) electrons move from lower energy states to higher energy states
   (4) electrons move from higher energy states to lower energy states

5. An atom of lithium-7 has an equal number of

   (1) electrons and neutrons (2) electrons and protons
   (3) positrons and neutrons (4) positrons and protons

6. In which type of chemical reaction do two or more reactants combine to form one product, only?

   (1) synthesis (2) decomposition
   (3) single replacement (4) double replacement

7. Which statement explains why neon is a Group 18 element?

   (1) Neon is a gas at STP.
   (2) Neon has a low melting point.
   (3) Neon atoms have a stable valence electron configuration.
   (4) Neon atoms have two electrons in the first shell.

8. Which element has chemical properties that are most similar to the chemical properties of fluorine?

   (1) boron (2) chlorine (3) neon (4) oxygen

9. What occurs as two atoms of fluorine combine to become a molecule of fluorine?

   (1) A bond is formed as energy is absorbed.
   (2) A bond is formed as energy is released.
   (3) A bond is broken as energy is absorbed.
   (4) A bond is broken as energy is released.

10. What is the number of pairs of electrons that are shared between the nitrogen atoms in a molecule of N_2?

    (1) 1 (2) 2 (3) 3 (4) 6