1. Under which conditions of temperature and pressure does a real gas behave most like an ideal gas?

   A) low temperature and low pressure
   B) low temperature and high pressure
   C) high temperature and low pressure
   D) high temperature and high pressure

2. According to the kinetic molecular theory for an ideal gas, all gas particles

   A) are in random, constant, straight-line motion
   B) are separated by very small distances relative to their sizes
   C) have strong intermolecular forces
   D) have collisions that decrease the total energy of the system

3. A sample of chlorine gas is at 300. K and 1.00 atmosphere. At which temperature and pressure would the sample behave more like an ideal gas?

   A) 0 K and 1.00 atm
   B) 150. K and 0.50 atm
   C) 273 K and 1.00 atm
   D) 600. K and 0.50 atm

4. According to the kinetic molecular theory, which statement describes the particles of an ideal gas?

   A) The gas particles are arranged in a regular pattern.
   B) The force of attraction between the gas particles is strong.
   C) The gas particles are hard spheres in continuous circular motion.
   D) The collisions of the gas particles may result in the transfer of energy.

5. According to the kinetic molecular theory, the particles of an ideal gas

   A) have no potential energy
   B) have strong intermolecular forces
   C) are arranged in a regular, repeated geometric pattern
   D) are separated by great distances, compared to their size

6. Which statement describes the particles of an ideal gas?

   A) The particles move in well-defined, circular paths.
   B) When the particles collide, energy is lost.
   C) There are forces of attraction between the particles.
   D) The volume of the particles is negligible.

7. The concept of an ideal gas is used to explain

   A) the mass of a gas sample
   B) the behavior of a gas sample
   C) why some gases are monatomic
   D) why some gases are diatomic

8. An assumption of the kinetic theory of gases is that the particles of a gas have

   A) little attraction for each other and a significant volume
   B) little attraction for each other and an insignificant volume
   C) strong attraction for each other and a significant volume
   D) strong attraction for each other and an insignificant volume

9. A real gas behaves *least* like an ideal gas under the conditions of

   A) low temperature and low pressure
   B) low temperature and high pressure
   C) high temperature and low pressure
   D) high temperature and high pressure

10. Under which conditions of temperature and pressure does oxygen gas behave least like an ideal gas?

    A) low temperature and low pressure
    B) low temperature and high pressure
    C) high temperature and low pressure
    D) high temperature and high pressure