WKS **NAME** _____
Real Gases **Period** _____ **Date** _____

Re-read pp. 435-436, "Real versus ideal gases" and answer the following questions.

1. Gases deviate from ideal behavior when the pressure is **(very low, very high)**. Explain why in terms of Kinetic Molecular Theory (KMT). Your answer should include references to TWO assumptions of KMT that are no longer valid under your selected condition of pressure.

2. Gases deviate from ideal behavior when the temperature is **(very low, very high)**. Explain why in terms of KMT. What happens to the particles under your selected condition?

3. Given your answers to 1 & 2, what are the conditions of pressure and temperature under which a gas will behave most ideally? Explain why in terms of KMT.

4. Which of the following gases would you expect to behave most like an ideal gas at room temperature and atmospheric pressure: water vapor, carbon dioxide, helium, or hydrogen? Explain in terms of size, shape & polarity of each particle.

For each statement below, write *true* or *false*. If it is false, change the statement to make it true.

_____ 5. An ideal gas is one whose particles take up space.

_____ 6. At low temperatures, ideal gases liquefy.

_____ 7. In the real world, gases consisting of small molecules are the only gases that are truly ideal.

_____ 8. Most gases behave like ideal gases at many temperatures and pressures.

_____ 9. No intermolecular attractive forces exist in a real gas.

_____ 10. Nonpolar gas molecules behave more like ideal gases than do gas molecules that are polar.

_____ 11. Real gases deviate most from ideal gas behavior at high pressures and low temperatures.

_____ 12. The smaller the gas molecule, the more the gas behaves like an ideal gas.