Gas Laws: Part 1

1. A cylinder is filled with a gas. The cylinder has a moveable piston. Indicate how the following would affect the pressure of the gas.

    a) double the temperature while keeping the volume constant.

    b) Increase the volume by three times while keeping the temperature constant.

    c) double the volume while decreasing the temperature by one half.

    d) increase the amount of gas by three while keeping the volume and temperature constant.

2. A cylinder with a moveable piston is filled with gas. Indicate how the following would affect the volume of the gas.

    a) decrease the temperature by one-third while keeping the pressure constant

    b) Increase the pressure by 75% while keeping the temperature constant.

    c) Halve the temperature and triple the pressure

    d) Increase the amount of gas by one-half while keeping the temperature and pressure constant.

3. Which of the following has more molecules?
    1.00 L of CO_2 at STP, 1.00 L of O_2 at STP, or 1.00 L N_2 at STP?