

Name: _____

Block: _____

Gases Review Problems #1

1. In the “Determination of Absolute Zero” lab experiment, a flask of air was cooled from 95.0°C to 5.0°C . If the starting volume was 265 ml , what was the final volume.
2. If a gas cylinder with a volume of 5.00ℓ contains 0.375 moles of O_2 gas, at a temperature of 27.0°C , what is the pressure of the O_2 in atmospheres?
3. What is the mass of the O_2 in the gas cylinder in question 2 above?

4. A sample of O_2 gas is collected by water displacement at 25°C . If the total pressure of the gas is 100.7 kPa and the vapor pressure of water at 25°C is 3.17 kPa , what is the partial pressure of the O_2 gas in the sample?
5. In the sample of gas in question 4 above, which molecules are moving faster, the O_2 molecules, or the H_2O molecules? Explain.
6. An open manometer is filled with mercury and connected to a container of nitrogen gas. The mercury level is 48 mm higher in the arm of the tube connected to the nitrogen. If the atmospheric pressure is 1.025 atm , what is the pressure of the hydrogen gas, in atmospheres?