DALTON’S LAW AND GRAHAM’S LAW NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. If I have a mixture of O2 gas and N2 gas in a 3.00 L container, and the oxygen was exerting a pressure of 233 Torr, and the nitrogen was exerting a pressure of 445 Torr, what is the total pressure of the system?
2. If I have a mixture of helium and argon gases which exhibits a pressure of 143.3 kPa at room temperature, and I know the helium makes up 45% of the mixture, what are the partial pressures of the two gases?
3. You have a mixture composed of 25.4% oxygen gas, 40.2% nitrogen gas, and 34.4% fluorine gas, and when you separate the oxygen and nitrogen gases out, you know they have a partial pressure of 83.2 kPa. What is the total pressure of the system of 3 gases?
4. If I have a mixture of carbon dioxide and methane gases in which 0.201 mol of the mixture occupies a 3.00 dm3 container at 28.0oC, and the partial pressure of carbon dioxide is 44.5 kPa, what is the partial pressure of methane?
5. If you collect a gas over water at a temperature of 23.0oC (vp = 21.068 mmHg), and the total pressure of the mixture is 765 mmHg, what is the pressure exerted by the gas by itself?

1. If you collect 45.0 mL of a gas over water at 755 mmHg of atmospheric pressure and a temperature of 22oC (vp = 20.316 mmHg), how many moles of the gas are present?

1. What is the relative rate of diffusion for He (MM = 4.00 g/mol) vs. CO2 (MM = 44.0 g/mol)? Which gas diffuses faster?

1. What is the relative rate of diffusion for hydrogen, H2 (MM = 2.02 g/mol) gas vs. sulfur dioxide, SO2 (MM = 64.1 g/mol) gas? Which gas diffuses faster?

1. If helium gas diffuses 2.33 times faster than GasX (not the laxative), what is GasX’s molar mass?

1. If a mystery gas diffuses 1.98 times faster than a sample of carbon dioxide gas, what is the mystery gas’s molar mass?