Name: Date: Period:

Practice: Dalton’s Law of Partial Pressures

1. The partial pressures of gases A, B, and C in a mixture are 0.75 atm, 0.25 atm, and 1.25 atm. What is the total pressure of the gas mixture in atm?
2. A cylinder is filled with 2.00 moles N2, 3.00 moles Ar, and 5.00 moles He. If the gas mixtures is at STP (0 ºC and 760 mmHg), calculate the partial pressure of each gas.
3. A sealed container has 1 moles of helium and 2 moles of nitrogen at 30 ºC. When the total pressure of the mixture is 600 kPa, calculate the partial pressure of each gas.
4. A mixture of oxygen, nitrogen, and hydrogen gases has a total pressure of 740 mmHg at 0 ºC. the partial pressure of oxygen is 200 mmHg and the partial pressure of the nitrogen is 400 mmHg. What is the partial pressure of the hydrogen gas in the mixture?
5. Gas samples A, B, and C are contained in a system at STP (0 ºC, 760 torr). If the partial pressure of sample A is 380 torr and the partial pressure of sample B is 190 torr, calculate the partial pressure of sample C.
6. A gas sample containing 2 moles H2 and 1 mole O2 is collected over water at 29 ºC and 900 kPa. What is the partial pressure for each gas in the sample?
7. If 4.00 moles of oxygen gas, 3.00 moles of hydrogen gas, and 1.00 moles of nitrogen gas are combined in a closed container with a constant pressure of 7.9 atm, calculate the partial pressure of each gas.
8. A certain gas mixture is 12% hydrogen, 16% methane, 17% oxygen, 22% carbon dioxide, and 33% hydrogen sulfide. If the total pressure in the mixture is 125 atm, calculate the partial pressure of each gas.
9. A mixture that is 14% H2, 21% NH3, 29% CO2, and 36% N2 exerts a total pressure of 800 torr. What is the partial pressure of each gas?
10. A 32.0 mL sample of hydrogen is collected over water at 20 ºC and a pressure of 750.0 torr. What is the pressure of the gas alone if the pressure due to the water is 17.5 torr?