Chemistry 115 Name key

Dr. Cary Willard

Quiz 8a (20 points) April 20, 2010

Must show all work to receive credit. Use proper significant figures.

PV=nRT, R=0.0821 L atm/mol K=62.4 L torr/mol K, 1 atm=760 torr=760 mm Hg

1. (5 points) The pressure at the top of Mt. Woodsen is 689 mm Hg, what is that pressure in atmospheres?
2. (5 points) A container is filled with argon with a pressure of 385 torr at 35oC. If the container is heated to 142oC, what is the new pressure of argon in the container?

P1 = 358 torr P2 = ?

T1 = 35oC = 308 K T2 = 142 oC = 415 K

1. (6 points) An unknown gas has a density of 9.24 g/L at 61oC and 2.55 atm. What is the molar mass of the unknown gas?
2. (4 points) Explain why a gas exerts a pressure using kinetic molecular theory.

The molecules are in constant motion. They exert a pressure on things when they bump into them.

Chemistry 115 Name key

Dr. Cary Willard

Quiz 8b (20 points) April 20, 2010

Must show all work to receive credit. Use proper significant figures.

PV=nRT, R=0.0821 L atm/mol K=62.4 L torr/mol K, 1 atm=760 torr=760 mm Hg

1. (5 points) The pressure at the top of Mt. Woodsen is 652 mm Hg, what is that pressure in atmospheres?
2. (5 points) A container is filled with argon with a pressure of 647 torr at 35oC. If the container is heated to 142oC, what is the new pressure of argon in the container?

P1 = 647 torr P2 = ?

T1 = 35oC = 308 K T2 = 142 oC = 415 K

1. (6 points) An unknown gas has a density of 15.8 g/L at 61oC and 4.55 atm. What is the molar mass of the unknown gas?
2. (4 points) Explain why a gas exerts a pressure using kinetic molecular theory.

The molecules are in constant motion. They exert a pressure on things when they bump into them.