Name: _____ per___

Unit 7 Gases: Review

Honors

Pressure

1. Calculate the pressure when 800 N of force is applied over 40 m^2.

2. Calculate the force experienced if 500 Pa of pressure is applied over a surface of 0.200 m^2.

3. Complete the following table.

Atmospheres (atm)	Millimeters of Mercury (mm Hg)	Pascal's (Pa)
	722	
1.10		
		1.36×10^4

Daltons Law

4. What is Dalton's Law?

5. A mixture contains carbon dioxide with a partial pressure of 3.45×10^5 Pa and oxygen with a partial pressure of 6.75×10^5 Pa. What is the total pressure of the mixture?

6. A mixture containing methane (CH_4) and oxygen has a total pressure of 0.78 atm. If the partial pressure of the methane is 0.34 atm, what is the partial pressure of the oxygen?

Boyles Law, Charles' Law, Gay-Lussac's Law and the Combined Gas Law

Directions: Give the name of the law used for each problem.

7. A sample of 1.2 L of neon at 0.75 atm of pressure is expanded to 4.5 L. What is the resulting pressure?

8. A balloon contains 1.48 L of air at 23 ℃. What will the volume of the balloon be if the temperature is lowered to 17 ℃?

9. A gas cylinder has a pressure reading of 1.80×10^5 Pa at 300 K. At what temperature will the pressure read 2.34×10^5 Pa?

10. A sample of oxygen occupies 150 mL at 2.4 atm of pressure and 480 K. What volume will the sample occupy at 320 K and 4.8 atm of pressure?

Avogadro's Law and the Ideal Gas Law

11. How many moles of neon are contained in 280 mL at STP? What is the mass of the neon? How many atoms of neon are present?

12. What is the volume occupied by 0.320 mol of xenon at 0.950 atm and 458 K?

13. What is the volume occupied by 90.0 g of water vapor at 9.80 x 10^4 Pa and 11 °C?

Gas Stoichiometry

14. Oxygen dichloride decomposes into oxygen and chlorine at STP. Write a balanced chemical equation for this reaction. If 784 mL of oxygen dichloride are present, what volume and mass of oxygen and chlorine is produced?

15. Nitrogen reacts with chlorine to produce nitrogen trichlroide at 2.56 atm and 600 ℃. Write a balanced chemical equation for this reaction. If 15.0 L of nitrogen react with 42.0 L of chlorine, which reactant is limiting and which is in excess? What volume and mass of nitrogen trichlroide will be produced?