

## Ch. 13.1 & 14 Extra Review Problems

### 1. Pressure

What is the height of a column of Hg that would be supported by a pressure of 110.8 kPa?

### 2. Partial Pressure

If the total pressure of a gas mixture ( $\text{N}_2$ ,  $\text{O}_2$  & He) is 1.23 atm, and the pressure of  $\text{N}_2$  is 0.34 atm and  $\text{O}_2$  is 0.77 atm, what is the pressure of He?

### 3. Boyle's Law

A sample of neon gas occupies a volume of 2.8 L at 1.8 atm. What will its volume be at 1.2 atm?

### 4. Charles's Law

A balloon full of air has a volume of 2.75 L at 18.0°C. What is its volume at 45.0°C?

### 5. Gay-Lussac's Law

A cylinder of He gas has a pressure of 4.40 atm at 25.0°C. At what temperature, in °C, will it reach a pressure of 6.50 atm?

### 6. Combined Gas Law

A sample of  $\text{H}_2$  gas has a volume of 65.0 mL at 0.992 atm and 16.0°C. What is its volume at 0.984 atm and 25.0°C?

### 7. Avogadro's Principle

What is the volume of 45.8 g of Kr at STP?

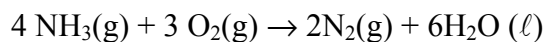
### 8. Ideal Gas Law

What is the pressure, in kPa, of 5.00 mol CO in a 20.0 L cylinder at 0.00°C?

9. Molar Mass Calculations

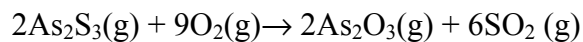
What is the molar mass of a gas if 6.45 g of the gas in a 20.0 L cylinder has a pressure of 0.241 atm at 0.00°C?

10. Volume-Volume Calculations



If 1.78 L of O<sub>2</sub> reacts, what volume of nitrogen can be produced at the same T & P?

11. Mass-Volume Calculations



If 89.5 g of As<sub>2</sub>S<sub>3</sub> reacts with excess O<sub>2</sub>, what volume of SO<sub>2</sub> can be produced at STP?