

Extra Unit 10 Review Questions

Added 2 questions to the review:

What is the density of argon gas at 25.0°C and 1.19 atm?

Answer = 1.94 g/L

39.95 from Periodic Table

$$D = \frac{MM \cdot P}{R \cdot T}$$

$$25.0^\circ\text{C} = 298 \text{ K}$$

$$D = \frac{39.95 \cdot 1.19}{0.0821 \cdot 298} \quad D = 1.94 \text{ g/L}$$

A 2.75 gram sample of gas occupies 325 mL at 22.5°C and 1.05 atm. What is the molar mass of this gas?

MM = 196 g/mole

A 2.75 gram sample of gas occupies 325 mL at 22.5°C and 1.05 atm. What is the molar mass of this gas?

MM = 196 g/mole

$$MM = \frac{g \cdot R \cdot T}{P \cdot V}$$

temp (T)

$$22.5^\circ\text{C} = 295.5 \text{ K}$$

pressure (P)

volume (V)

conv to L

$$= 0.325 \text{ L}$$

$$MM = \frac{2.75 \cdot 0.0821 \cdot 295.5}{1.05 \cdot 0.325}$$

MM = 196 g/mole