

PS 16

① 23°C water displacement.

$$P_{\text{H}_2\text{O}} = 21 \text{ torr} \quad @ 23^\circ\text{C}$$

$$P_{\text{atm}} = 735 \text{ torr}$$

$$V = 568 \text{ mL}$$

Find V_2 After removal H_2O

$$P_{\text{gas}} = P_{\text{atm}} + P_{\text{H}_2\text{O}} = 735 + 21 = 756 \text{ torr} \quad P_{\text{T}}$$

$$P_1 V_1 = P_2 V_2$$

With H_2O Without H_2O

$$(756)(568) = 735(V_2)$$

Dec 10-8:04 AM

② $P_{\text{T}} = 4 \text{ atm}$

$$n_{\text{T}} = 16 \text{ moles}$$

$$P_2 = 2.75 \text{ atm}$$

Find n_x

$$P_x = P_{\text{T}} - P_2$$

$$= 4 - 2.75$$

$$P_x = 1.25 \text{ atm}$$

$$P_x = X_x P_{\text{T}}$$

$$1.25 = X_x (4)$$

$$X_x = 0.3125 = \frac{n_{\text{ob},x}}{16}$$

Dec 10-8:27 AM

(22) He 3L, 5.6 atm, 25°C → 9L container
Ne 4.5L, 3.6 atm, 25°C → P = ?

$P_1 V_1 = P_2 V_2$
 $(5.6)(3) = P_2 (9)$
 $P_{He} = \underline{\hspace{2cm}}$

$P_1 V_1 = P_2 V_2$
 $(3.6)(4.5) = P_2 (9)$
 $P_{Ne} = \underline{\hspace{2cm}}$

$P_{He} + P_{Ne} =$

 $P_T =$

Dec 10-8:37 AM

(23) $P_T = 0.95 \text{ atm}$ $n_A = 0.32 \text{ mole}$
Find P_B $n_B = 0.56 \text{ mole}$

$$P_B = X_B P_T$$

$$= \frac{0.56}{0.32 + 0.56} (0.95)$$

Dec 10-8:42 AM

(24) $2\text{NaN}_3(\text{s}) \rightarrow 2\text{Na}(\text{s}) + 3\text{N}_2(\text{g})$

V 40 L
 T 25°C
 P 763 torr

Mole, \rightarrow
 $PV = nRT$
 (NOT STD)

Dec 10-8:46 AM

(26) $\text{Mg}_3\text{N}_2(\text{s}) + 6\text{H}_2\text{O}(\text{l}) \rightarrow 3\text{Mg}(\text{OH})_2(\text{s}) + 2\text{NH}_3(\text{g})$

7.5 g NH₃	1 mole NH ₃	6 mole H ₂ O	22.4 L (g)
	17 g NH₃	2 mole NH ₃	1 mole H ₂ O (g)

\uparrow
 STD

Dec 10-8:52 AM

Exm 3 $POCl_3$ $FC = \#val e^- - \left(\text{All Non bond} + \frac{1}{2} \text{Bonding} \right)$

① $5 + 6 + 3(6) = 32e^-$

$$\begin{array}{r} - 8 \\ 24e^- \\ - 24 \\ \hline 8 \end{array}$$

$FC = 5 - (0 + 4) = 1$

Dec 10-9:21 AM

② NO_2^-

$5 + 2(6) + 1 = 18e^-$

$$\begin{array}{r} - 4 \\ 14e^- \\ - 12 \\ - 2 \\ \hline 0 \end{array}$$

$O = \ddot{N} - \ddot{O}^-$ $O - N = O$

Dec 10-9:28 AM