

p. 233

#8, 9, 37, 48, 50, 65, 67, 105, 106

CALVIN

8) Volume decreases Ex $1X + 1Y \rightarrow 1XY$
 2 mole \rightarrow 1 mole

9) Δ

37) a) $\frac{4.8 \text{ atm}}{1 \text{ atm}} \times \frac{760 \text{ mmHg}}{1 \text{ atm}} = 3.6 \times 10^3 \text{ mmHg}$ b) $\frac{3.6 \times 10^3 \text{ mmHg}}{760 \text{ mmHg}} \times 760 \text{ torr} = 3.6 \times 10^3 \text{ torr}$

c) $\frac{4.8 \text{ atm}}{1 \text{ atm}} \times \frac{1.013 \times 10^5 \text{ Pa}}{1 \text{ atm}} = 4.9 \times 10^5 \text{ Pa}$ d) $\frac{4.8 \text{ atm}}{1 \text{ atm}} \times \frac{14.7 \text{ psi}}{1 \text{ atm}} = 71 \text{ psi}$

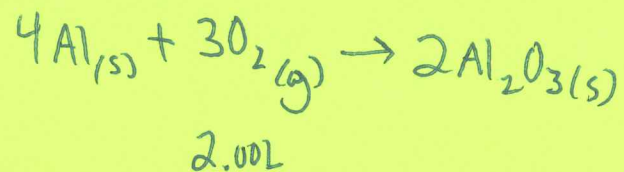
	P	V	n	T
48) a)	$7.74 \times 10^3 \text{ Pa}$	12.2 mL	$3.81 \times 10^{-5} \text{ mol}$	25°C
b)	179 atm	43.0 mL	0.421 mol	223 K
c)	455 torr	3.6 L	$4.4 \times 10^{-2} \text{ mol}$	331°C
d)	745 mmHg	11.2 L	0.401 mol	334 K or 61°C

50) a) $PV = nRT$
 $n = \frac{PV}{RT} = \frac{(1.00 \text{ atm})(6.0 \text{ L})}{(0.0821 \frac{\text{L}\cdot\text{atm}}{\text{mol}\cdot\text{K}})(298 \text{ K})} = 0.25 \text{ mol}$

b) 0.48 mol

c) 0.11 mol

65)



2.00 L O₂	1 mol O₂	4 mol Al	26.98 g Al	= 3.21 g Al
22.4 L O ₂	3 mol O ₂	1 mol Al		

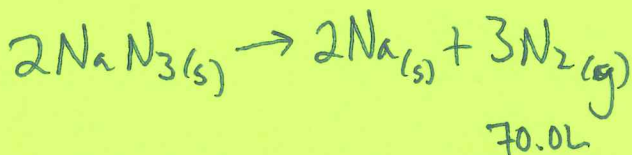
OR

$$PV = (n)RT$$

$$n = \frac{PV}{RT} = \frac{(1 \text{ atm})(2.00 \text{ L})}{(0.0821 \frac{\text{K} \cdot \text{atm}}{\text{mol} \cdot \text{K}})(273 \text{ K})} = 0.0892 \text{ mol}$$

0.0892 mol O₂	4 mol Al	26.98 g Al	= 3.21 g Al
22.4 L O ₂	3 mol O ₂	1 mol Al	

67)



70.0L N₂	1 mol N₂	2 mol NaN₃	65.02 g NaN₃	= 135g NaN₃
22.4L N ₂	3 mol N ₂	1 mol NaN ₃		

OR

$$PV = (n)RT$$

$$n = \frac{PV}{RT} = \frac{(1.00 \text{ atm})(70.0 \text{ L})}{(0.0821 \frac{\text{K} \cdot \text{atm}}{\text{mol} \cdot \text{K}})(273 \text{ K})} = 3.12 \text{ mol N}_2$$

3.12 mol N₂	2 mol NaN₃	65.02 g NaN₃	= 135g NaN₃
22.4 L N ₂	3 mol N ₂	1 mol NaN ₃	

105) 1) increase pressure
2) decrease temperature

106) 1) double the moles of gas
2) double absolute temperature
3) cut the pressure in half