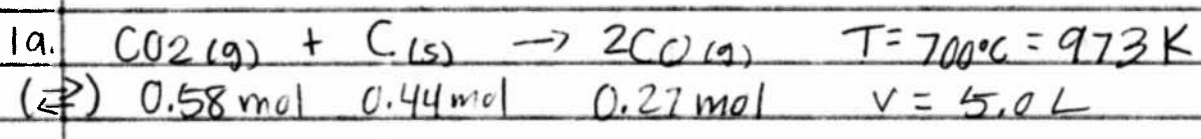


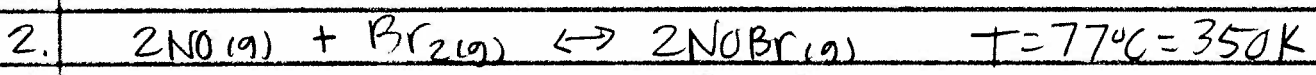
①

GE 2



b. $K_c = \frac{[\text{CO}]^2}{[\text{CO}_2]} = \frac{[.27\text{mol}/5.0\text{L}]^2}{[0.58\text{mol}/5.0\text{L}]} = \frac{(.054\text{M})^2}{(.116\text{M})} = \boxed{.025}$

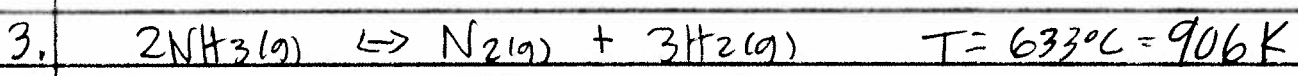
c. $K_p = K_c(RT)^{\Delta n_{\text{gas}}} \quad K_p = .025 [(.0821)(973)]^{2-1} = \boxed{2.0}$



I	0.0930 mol	0.0652 mol	0 mol	$V = 1.0\text{L}$
C	-2X	-X	+2X	
E	0.0930 - 2X	0.0652 - X	2X	$[\text{NOBr}] = 0.0612\text{M}$

$2X = 0.0612\text{M}$
 $= 0.0930 \cdot 2(.0306) = 0.0652 \cdot .0306 = .0612\text{ mol } 1.0\text{L}$
 $= .0318\text{ mol} \quad = .0346\text{ mol} \quad = .0612\text{ mol} \quad X = .0306\text{ mol}$

$K_c = \frac{[\text{NOBr}]^2}{[\text{NO}]^2 [\text{Br}_2]} = \frac{(.0612\text{mol}/1.0\text{L})^2}{(.0318\text{mol}/1.0\text{L})^2 (.0346\text{mol}/1.0\text{L})} = \boxed{107}$



I	0.296 M	.170 M	.095 M	
C	-2X	+X	+3X	$[\text{NH}_3] = 0.268\text{M}$
	0.268 M	.170 M + .014 M	.095 + 3(.014 M)	$0.296\text{M} - 2X = 0.268\text{M}$
		= .184 M	= .137 M	$.028\text{M} = 2X$
				$X = .014\text{M}$

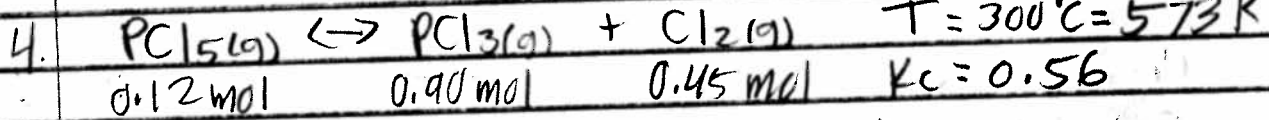
$K_c = \frac{[\text{N}_2][\text{H}_2]^3}{[\text{NH}_3]^2} = \frac{(.184\text{M})(.137)^3}{(.268\text{M})^2} = \boxed{.00659}$

$K_p = K_c(RT)^{\Delta n_g} \quad K_p = .00659 [(.0821)(906)]^{4-2} = \boxed{36.5}$

(2)

GE 2

$$V = 5.0 \text{ L}$$



a. At $\rightleftharpoons ?$ $Q = \frac{(0.90 \text{ mol} / 5.0 \text{ L})(0.45 \text{ mol} / 5.0 \text{ L})}{(0.12 \text{ mol} / 5.0 \text{ L})}$

$$Q = 0.675$$

$Q > K_c$ NOT @ \rightleftharpoons

b.

SHIFT LEFT