15.22 $2Cl_{2(g)} + 2H_2O_{(g)} \rightleftharpoons 4HCl_{(g)} + O_{2(g)}$ $K_p = 0.0752$

① Flip eqn $\frac{1}{K_p}$

② ½ eqn $K^{1/2}$ or $\sqrt{K} = 0.274\ K_p$

③ $K_p = K_c(RT)^{\Delta n}$

$0.274 = K_c\left[(0.08206)(753)\right]^{1/2}$

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Reaction $H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)}$

	H_2	I_2	HI	
Initial (I)	1×10^{-3} M	2×10^{-3} M	0	time = 0
Change (C)	-0.935×10^{-3}	-0.935×10^{-3}	$+1.87\times10^{-3}$	MOLE RATIO
Equil (E)	0.065×10^{-3}	1.065×10^{-3}	1.87×10^{-3}	

Find $K_c = \frac{[HI]^2}{[H_2][I_2]} = \frac{(1.87\times10^{-3})^2}{(0.065\times10^{-3})(1.065\times10^{-3})}$

$K = 50.5$

Feb 8-10:34 AM

	$2SO_3$	$\rightarrow$	$2SO_2$	$+ O_2$
I	0.5		0	0
Δ	−0.3		+0.3	+0.15
E	0.2		0.3	0.15

$$K = \frac{(SO_2)^2(O_2)}{(SO_3)^2} = \frac{(0.3)^2(0.15)}{(0.2)^2}$$

Feb 8-10:41 AM

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