Homework - Worksheet

1. b) Na^+ SO_4^{2-} Ca^{2+} Cl^-

$$Na_2SO_{4(aq)} + CaCl_{2(aq)} \overset{>50\%}{\rightleftharpoons} 2NaCl_{(aq)} + CaSO_{4(s)}$$

2. $CO_{(g)} + Cl_{2(aq)} \rightleftharpoons COCl_{2(g)}$ $V = 1.00\ L$

Init.	xs	1.5 mol		$C = \frac{n}{V}$
eqm.	1.75 mol	0.70 mol	0.80 mol	
	1.75 mol/L	0.70 mol/L	0.80 mol/L	

$\%\ rxn = \frac{exp.}{theor.} \times 100\%$

$\%\ rxn = \frac{0.80\ mol}{1.5\ mol} \times 100\%$

$\%\ rxn = 53\%$

Cl_2 is L.R.

$1.5\ mol\ Cl_2 \times \frac{1\ mol\ COCl_2}{1\ mol\ Cl_2} = 1.5\ mol\ COCl_2$

b) $CO_{(g)} + Cl_{2(g)} \rightleftharpoons COCl_{2(g)}$

$$K = \frac{[COCl_{2(g)}]}{[CO_{(g)}][Cl_{2(g)}]}$$

c) $$K = \frac{[0.80]}{[1.75][0.70]}$$

$K = 0.65$

Worksheet

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#9, 10 p. 558