

64.

$$a. \Delta G = \sum \Delta G_{\text{prod}} - \sum \Delta G_{\text{React}}$$

$$= -958 \text{ kJ}$$

\*  $\Delta G = \Delta H - T \Delta S$   
 can't use this  $\Delta G$  ↑  
298 K

$$\Delta G = -RT \ln K$$

$$-958 \text{ kJ} = -\left(8.314 \frac{\text{J}}{\text{K}}\right) \left(\frac{825^\circ\text{C}}{273}\right) \left(\frac{1 \text{ kJ}}{1000 \text{ J}}\right) \ln K$$

$$\ln K = \frac{-958 \text{ kJ}}{-9.129 \text{ kJ}}$$

$$\ln K = 104.9$$

$$K = e^{104.9}$$

$$K = 3.77 \times 10^{45}$$

66. Solve for K

$$K = \frac{(P_{\text{SO}_3})^2}{(P_{\text{SO}_2})^2 (P_{\text{O}_2})}$$

$$7.4 \times 10^{24} =$$

Calculate  $\Delta G_{\text{RXN}}$

$$\Delta G = -RT \ln K$$

$$-142 \text{ kJ} =$$