(c) Determine the equilibrium concentrations of $H_2(g)$ and $I_2(g)$.

(d) On the graph above, make a sketch that shows how the concentration of $H_2(g)$ changes as a function of time.

(e) Calculate the value of the following equilibrium constants at 700. K.

(i) $K_c$

(ii) $K_p$

(f) At 1,000 K, the value of $K_c$ for the reaction is $2.6 \times 10^{-2}$. In an experiment, 0.75 mole of $HI(g)$, 0.10 mole of $H_2(g)$, and 0.50 mole of $I_2(g)$ are placed in a 1.0 L container and allowed to reach equilibrium at 1,000 K. Determine whether the equilibrium concentration of $HI(g)$ will be greater than, equal to, or less than the initial concentration of $HI(g)$. Justify your answer.