Challenge Problem 5

Name ________________________

Section ______

Due Friday, February 27, 5:00 pm
Turn in at my office, Room 121 (Chemistry)

At 35°C, $K_c = 1.6 \times 10^{-5}$ mol/L for the reaction

$$2 \text{NOCl} (g) \rightleftharpoons 2 \text{NO} (g) + \text{Cl}_2 (g)$$

If 2.0 mol NO and 1.0 mol Cl$_2$ are placed into a 1.0 L flask, calculate the equilibrium concentrations of all species.

To receive credit, you must solve this problem WITHOUT solving a cubic equation. Approximations can be made.