

Chemistry 142

Exam 1 Equation Sheet

$$\ln[X] = \ln[X]_0 - kt$$

$$\frac{1}{[X]} = \frac{1}{[X]_0} + kt$$

$$[X] = [X]_0 - kt$$

$$K_P = K_C(RT)^{\Delta n}$$

$$k = Ae^{-E_a/RT}$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Constants:

$$R = 8.3145 \text{ J mol}^{-1} \text{ K}^{-1} = 0.08206 \text{ L atm mol}^{-1} \text{ K}^{-1}$$

$$1 \text{ atm} = 760 \text{ torr (or mmHg)} = 1.01325 \times 10^5 \text{ Pa} = 1.01325 \text{ bar} = 1013.25 \text{ mbar}$$