

Name: _____

Exam 2 Equations (Chapters 12-13)

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

$$[A]_t = -kt + [A]_0$$

$$t_{1/2} = \frac{[A]_0}{2k}$$

$$\ln[A]_t = -kt + \ln[A]_0$$

$$\ln\left(\frac{k_2}{k_1}\right) = \frac{-E_a}{R} \left(\frac{1}{T_2} - \frac{1}{T_1}\right)$$

$$Q \text{ (or } K_{eq}) = \frac{[A]^a[B]^b}{[C]^c[D]^d}$$

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

$$rate = \frac{\Delta[A]}{\nu_A \Delta t}$$

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

$$\frac{[A]_t}{[A]_0} = \left(\frac{1}{2}\right)^{\frac{t}{t_{1/2}}}$$

$$t_{1/2} = \frac{\ln 2}{k}$$

$$t_{1/2} = \frac{1}{k[A]_0}$$

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