

Exam 2 Equations- Thermo, Activity, Acid-Base

$$\Delta G = \Delta H - T\Delta S$$

$$K = e^{-\Delta G^\circ/RT}$$

$$R=8.314 \text{ J mol}^{-1} \text{ K}^{-1}$$

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

$$\mu = \frac{1}{2} (c_1 z_1^2 + c_2 z_2^2 + \dots) = \frac{1}{2} \sum_i c_i z_i^2$$

$$\log \gamma = \frac{-0.51 z^2 \sqrt{\mu}}{1 + (\alpha \sqrt{\mu}/305)} \quad (\text{at } 25^\circ\text{C})$$

$$\text{pH} \approx -\log[\text{H}^+]$$

$$\text{pH} = \text{p}K_a + \log \frac{[\text{A}^-]}{[\text{HA}]}$$

$$\text{pH} = \text{p}K_a + \log \frac{[\text{B}]}{[\text{BH}^+]}$$