Vapor pressure in solution
$P_a = X_a \cdot P^o$
$X_a = \frac{n_a}{n_{\text{tot}}}$

Colligative properties
$\Delta T_{\text{F}} = K_{\text{F}} \cdot m \cdot (\text{number of particles})$
$\Delta T_{\text{B}} = K_{\text{B}} \cdot m \cdot (\text{number of particles})$

Osmotic Pressure
$\pi = \text{M}RT$

Rate of Reaction
$\text{rate} = \frac{n}{t}$
$\text{rate} = k[A]^n[B]^m$

Equilibrium
$k_{eq} = \frac{[C]^c[D]^d}{[A]^a[B]^b}$

Acid Dissociation
$k_a = \frac{[\text{H}^+][\text{X}^-]}{[\text{HX}]}$

Gibbs Free Energy
$\Delta G = \Delta H - T\Delta S$

$\Delta H = \Delta E + P\Delta V$
$\Delta H = \Delta E + V\Delta P$

$E^0_{\text{cell}} = E^0_{\text{red}} - E^0_{\text{ox}}$

$\ln(\frac{N_t}{N_0}) = \frac{\ln(1/2)}{t_{1/2}}t$
$N_t = N_0(1/2)^{t/t_{1/2}}$