CHE 103 & 104 Equation Sheet

$°F = 1.8°C + 32$

$K = °C + 273$

$q = mC\Delta T$

$d = \frac{m}{V}$

$K_{eq} = \frac{[Products]^x}{[Reactants]^y}$

$q = \Delta Hm$

$$\%\ composition\ of\ an\ element = \frac{n \times molar\ mass\ element}{molar\ mass\ compound} \times 100$$

$$M = \frac{mol\ solute}{L\ solution}$$

$$\chi = \frac{mol\ solute}{mol\ solution + solvent}$$

$$\%\ yield = \frac{actual\ yield}{theoretical\ yield} \times 100$$

$$percent\ by\ mass = \frac{mass\ solute}{mass\ solution} \times 100$$

$$ppm = \frac{mass\ solute}{mass\ solution} \times 10^6$$

$$ppb = \frac{mass\ solute}{mass\ solution} \times 10^9$$

$$M_1V_1 = M_2V_2$$

$PV = nRT$

$$\frac{P_1V_1}{T_1} = \frac{P_2V_2}{T_2}$$

$$average\ atomic\ mass = \sum (mass_i)(abundance_i)$$

$$pH = -\log [H^+]$$

$$pOH = -\log [OH^-]$$

$$K_w = [H^+][OH^-]$$

$$[H^+] = 10^{-pH}$$

$$[OH^-] = 10^{-OH}$$

$$14 = pH + pOH$$

$$pH = pK_a + \log \frac{[base]}{[acid]}$$