

FORMULA SHEET FOR CHEMISTRY 20 EQUIVALENCY EXAM

$$C = \frac{n_{\text{solute}}}{V_{\text{solution}}}$$

$$C_1V_1 = C_2V_2$$

$$pH + pOH = 14.00 \quad pH = -\log[H_3O^+_{(aq)}] \quad pOH = -\log[OH^-_{(aq)}]$$

$$[H_3O^+_{(aq)}] = 10^{-pH} \quad [OH^-_{(aq)}] = 10^{-pOH}$$

$$PV = nRT$$

$$P_1V_1 = P_2V_2$$

$$\frac{V_1}{T_1} = \frac{V_2}{T_2}$$

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

$$\% \left(\frac{V}{V} \right) = \frac{V_{\text{solute}}}{V_{\text{solution}}} \times 100\%$$

$$\% \left(\frac{m}{m} \right) = \frac{m_{\text{solute}}}{m_{\text{solution}}} \times 100\%$$

$$ppm = \frac{m_{\text{solute}}(mg)}{m_{\text{solution}}(kg)}$$

$$ppm = \frac{m_{\text{solute}}(g)}{m_{\text{solution}}(g)} \times 10^6$$

$$ppm = \frac{m_{\text{solute}}(mg)}{V_{\text{solution}}(L)}$$

$$\% \text{ yield} = \frac{\text{actual yield (g)}}{\text{theoretical yield (g)}} \times 100\%$$