

Student Name: _____ Date: _____

30S Chemistry

Formula and Constant Reference Sheet

$$M = \frac{mRT}{PV}$$

$$PV = nRT$$

$$P_1V_1 = P_2V_2$$

$$P_{\text{total}} = P_1 + P_2 + P_3 \dots$$

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

$$D = \frac{MP}{RT}$$

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

$$\frac{P_1}{T_1} = \frac{P_2}{T_2}$$

$$\frac{S_1}{P_1} = \frac{S_2}{P_2}$$

$$\text{Percent error} = \frac{\text{error}}{\text{accepted value}} \times 100$$

Avagadro's number: 6.02×10^{23} representative particles/mole

Molar volume: 22.4 mole/L

$$R = 0.0821 \frac{\text{L} \cdot \text{atm}}{\text{mol} \cdot \text{K}} = 8.314 \frac{\text{L} \cdot \text{kPa}}{\text{mol} \cdot \text{K}} = 62.4 \frac{\text{L} \cdot \text{mmHg}}{\text{mol} \cdot \text{K}}$$

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

$$\% \text{ composition} = \frac{\text{mass of element}}{\text{mass of compound}} \times 100\%$$

$$e_{\text{fu}} = \frac{\text{mm}}{e_{\text{fm}}}$$

$$\text{Mass}_{\text{reactants}} = \text{Mass}_{\text{products}}$$

$$\text{KE} = \frac{1}{2} mv^2$$

$$\frac{\text{Rate}_A}{\text{Rate}_B} = \sqrt{\frac{\text{molar mass}_B}{\text{molar mass}_A}}$$

$$\text{density} = \frac{\text{mass}}{\text{volume}}$$

$$K = ^\circ\text{C} + 273$$

$$^\circ\text{C} = K - 273$$