

# Molar Conversions Worksheet

$$\textcircled{1} \quad \frac{80 \text{ g}}{18 \text{ g/mol}} = 4.4 \text{ mol H}_2\text{O}$$

$$\textcircled{2} \quad \frac{22 \text{ g}}{44 \text{ g/mol}} = 0.5 \text{ mol CO}_2$$

$$\textcircled{3} \quad 5 \text{ mol} \times 189.3 \text{ g/mol} = 946.5 \text{ g Ba(CN)}_2$$

$$\textcircled{4} \quad 3.5 \text{ mol} \times 18 \text{ g/mol} = 63 \text{ g H}_2\text{O}$$

$$\textcircled{5} \quad 0.25 \text{ mol} \times 6.02 \times 10^{23} = 1.5 \times 10^{23} \text{ molecules CH}_4$$

$$\textcircled{6} \quad 30 \text{ mol} \times 6.02 \times 10^{23} = 1.8 \times 10^{24} \text{ sodium ions}$$

$$\textcircled{7} \quad \frac{3.01 \times 10^{23}}{6.02 \times 10^{23}} = 0.5 \text{ mol C}_2\text{H}_6$$

$$\textcircled{8} \quad \frac{1.2 \times 10^{24}}{6.02 \times 10^{23}} = 1.99 \text{ mol glucose}$$

$$\textcircled{9} \quad \frac{1.2 \times 10^{24}}{6.02 \times 10^{23}} = 1.99 \text{ mol H}_2\text{O}$$

$$1.99 \text{ mol H}_2\text{O} \times 18 \text{ g/mol} = 35.8 \text{ g H}_2\text{O}$$

$$\textcircled{10} \quad \frac{1.51 \times 10^{22}}{6.02 \times 10^{23}} = 0.025 \text{ mol}$$

$$0.025 \text{ mol} \times 20.2 \text{ g/mol} = 0.505 \text{ g Ne}$$

$$\textcircled{11} \quad \frac{36 \text{ g}}{18 \text{ g/mol}} = 2 \text{ mol}$$

$$2 \text{ mol} \times 6.02 \times 10^{23} = 1.2 \times 10^{24} \text{ molecules H}_2\text{O}$$

$$\textcircled{12} \quad \frac{3 \text{ g}}{12 \text{ g/mol}} = 0.25 \text{ mol}$$

$$0.25 \text{ mol} \times 6.02 \times 10^{23} = 1.5 \times 10^{23} \text{ C atoms}$$

$$\textcircled{13} \quad 0.25 \text{ mol} \times 22.4 \text{ L/mol} = 5.6 \text{ L Cl}_2$$

$$\textcircled{14} \quad 6.25 \text{ mol} \times 22.4 \text{ L/mol} = 140 \text{ L He}$$

$$\textcircled{15} \quad \frac{44.8 \text{ L}}{22.4 \text{ L/mol}} = 2 \text{ mol H}_2$$

$$\textcircled{16} \quad \frac{6.2 \text{ L}}{22.4 \text{ L/mol}} = 0.277 \text{ mol O}_2$$