

1. What is the molar mass of Mg?

$24.31$

2. What is the molar mass of
- $\text{N}_2\text{O}_5$
- ?

$2 \times 14.01 + 5 \times 16 = 108.0$

3. What is the molar mass of
- $(\text{NH}_4)_2\text{S}$
- ?

$2 \times 14.01 + 8 \times 1.008 + 32.07 = 68.15$

4. What is the mass of 2.50 mol of Mg?

$$\frac{2.50 \text{ mol}}{1 \text{ mol}} \times 24.31 \text{ g} = 60.8 \text{ g}$$

5. How many moles of NaCl are in 125 g of NaCl?

$$\frac{125 \text{ g}}{58.44 \text{ g}} \times 1 \text{ mol} = 2.14 \text{ mol}$$

6. What is the mass of 3.50 mol of
- $\text{Cl}_2$
- ?

$$\frac{3.5 \text{ mol}}{1 \text{ mol}} \times 70.9 \text{ g} = 248 \text{ g}$$

7. How many moles of
- $\text{CH}_4$
- are in
- $3.38 \times 10^{12}$
- grams of
- $\text{CH}_4$
- ?

$$\frac{3.38 \times 10^{12} \text{ g}}{16.04 \text{ g}} \times 1 \text{ mol} = 2.11 \times 10^{11} \text{ mol}$$

8. How many moles of
- $\text{CO}_2$
- are in 225 g of
- $\text{CO}_2$
- ?

$$\frac{225 \text{ g}}{44.01 \text{ g}} \times 1 \text{ mol} = 5.11 \text{ mol}$$

9. How many moles of
- $\text{H}_2\text{O}$
- are in 125 g of
- $\text{H}_2\text{O}$
- ?

$$\frac{125 \text{ g}}{18.02 \text{ g}} \times 1 \text{ mol} = 6.94 \text{ mol}$$

10. How many moles of
- $\text{H}_2\text{O}$
- are in 125 g of
- $\text{H}_2\text{O}$
- ?