

Name:

Converting moles of a compound to mass

Class:

Mass to Mole

first: look at this example

Determine the number of moles in 25.5 g SO₂.

solution:

1- calculate molar mass of SO₂ (use periodic table)

$$\text{molar mass} = 32.06 + (2 \times 16) = 64.06 \text{ g/mol}$$

2- convert from mass to mole

$$25.5 \text{ g} \times \frac{1 \text{ mol}}{64.06 \text{ g}} = 0.398 \text{ mol SO}_2$$

: Solve this question

1- Ammonia has the molecular formula NH₃. How many moles in 32 grams of Ammonia?

• Molar mass = + = g/mol

• Given mass $\times \frac{1 \text{ mol}}{\text{molar mass g}}$

$$\text{g} \times \frac{\text{mol}}{\text{g}} = \text{mol}$$