MOLAR MASS
CONVERSION WORKSHEET

1) How much will 0.072 moles of $FeCl_3$ weigh?

2) How much does 90 moles of Mg weigh?

3) How much will 6.14×10^{25} gold atoms weigh?

4) How much does 3.3 moles of K_2S weigh?

5) How much does 27.8 moles of Cr weigh?

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Answers

1) How much will 0.072 moles of $FeCl_3$ weigh?

Molar mass of $FeCl_3$ = 162.2 g/mol

1 mole of $FeCl_3$ weighs 162.2 grams

0.072 moles of $FeCl_3$ weighs = 162.2 x 0.072 = 11.67 grams

2) How much does 90 moles of Mg weigh?

Molar mass of Mg = 24 g/mol

1 mole of Mg weighs 24 grams

90 moles of Mg weigh 2160 grams

3) How much will 6.14×10^{25} gold atoms weigh?

Molar mass of Au = 196.96 g/mol

1 mole of Au weighs 196.96 grams, i.e., 6.023×10^{23} Au atoms weigh 196.96 grams

6.14×10^{25} Au atoms weigh $196.96 \times [(6.14 \times 10^{25})/(6.023 \times 10^{23})] = 2 \times 104$ grams

4) How much does 3.3 moles of K_2S weigh?

Molar mass of K_2S = 110.262 g/mol

1 mole of K_2S weighs 110.262 grams

3.3 moles of K_2S weigh 363.86 grams

5) How much does 27.8 moles of Cr weigh?

Molar mass of Cr = 51.99 g/mol

1 mole of Cr weighs 51.99 grams

27.8 moles of Cr weigh 1445.3 grams