Name : _____ Date : _____

Percent Composition Practice Worksheet

1. How many grams of oxygen can be produced from the decomposition of 100 g of $KClO_3$?

2. How much iron can be recovered from 25.0 g of Fe_2O_3?

3. How many grams of silver can be produced from 125 g of Ag_2S?

4. What percent of glucose, $C_6H_{12}O_6$, is carbon?

5. What are the percent compositions of zinc, phosphorus, and oxygen in $Zn_3(PO_4)_2$?

6. What percent of $FeSO_4 \cdot 6H_2O$ is Fe?

7. Find the percent composition of each element in N_2S_2?

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Answers

1. How many grams of oxygen can be produced from the decomposition of 100 g of $KClO_3$?

Molar mass of KClO3 = 122.5 g
O: 3 x (16.00 g/122.5 g) x 100 g = 39.2 g

2. How much iron can be recovered from 25.0 g of Fe_2O_3?

Molar mass of Fe2O3 = 159.7 g
Fe: 2 x (55.85 g/159.7 g) x 25 g = 17.49 g

3. How many grams of silver can be produced from 125 g of Ag_2S?

Molar mass of Ag2S = 247.87 g
Ag: 2 x (107.87 g/247.87 g) x 125 g = 108.8 g

4. What percent of glucose, $C_6H_{12}O_6$, is carbon?

Molar mass of $C_6H_{12}O_6$ = 6 x 12.01 + 12 x 1.008 + 6 x 16.00 = 180.16 g
C: 6 x (12.01 g/180.16 g) x 100% = 40%

5. What are the percent compositions of zinc, phosphorus, and oxygen in $Zn_3(PO_4)_2$?

Molar mass of $Zn_3(PO_4)_2$ = 386.08 g
Zn: 3 x (65.38 g/386.08 g) x 100% = 50.78%
P: 2 x (30.97 g/386.08 g) x 100% = 16.04%
O: 8 x (16.00 g/386.08 g) x 100% = 33.15%

6. What percent of $FeSO_4 \cdot 6H_2O$ is Fe?

Molar mass of $FeSO_4 \cdot 6H_2O$ = 151.92 g + 6 x 18.02 g = 260.04 g
Fe: (55.85 g/260.04 g) x 100% = 21.48%

7. Find the percent composition of each element in N_2S_2?

Molar mass of N_2S_2 = 2 x 14 g + 2 x 32 g = 92 g
N: 2 x (14 g/92 g) x 100% = 30.4%
S: 2 x (32 g/92 g) x 10 % = 69.6%