

⑤ % H in CH<sub>4</sub>       $\frac{H}{CH_4} = \frac{4(1)}{12 + 4(1)} \times 100$

⑥ MgO  
 1:1 mole  $\rightarrow \frac{1.52 \text{ g Mg}}{1 \text{ g O}} = \frac{13.91 \text{ g Mg}}{X \text{ g O}}$

PS 3-1

$\frac{X}{1} = \frac{13.91}{1.52} =$

Sep 25-8:03 AM

⑨  $X_2O_3$   $\rightarrow$  60% mass X <sup>+3</sup> <sub>-2</sub>      50 g/mole  
 40% mass O      ? g/mole

60% X

$\frac{X_2}{X_2O_3} = \frac{0.6}{1}$

$\frac{100}{X_2O_3} = \frac{0.6}{1}$

$\frac{100}{0.6} = \frac{X_2O_3}{1} = 166.67 \text{ g/mole}$

$X_2O_3 = 166.67$   
 $- X_2 \quad 100.00$   


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 $O_3 = 66.67$   
 $O = 22.22 \text{ g/mole}$

Sep 25-8:22 AM

⑦  $A + B + C \rightarrow ABC$   
 $\boxed{?}$  1.811g 3.613g 7.124g

⑧  $^{13}\text{C}$  mass of single atom in g.  
 $\boxed{132.9041 \text{ on } ^{13}\text{C scale}}$

$$\frac{132.9041 \text{ g} / \cancel{\text{1 mole } ^{13}\text{C}}}{\cancel{\text{1 mole } ^{13}\text{C}} / 6.02 \times 10^{23} \text{ atoms } ^{13}\text{C}} =$$

Sep 25-8:30 AM

⑩ 10g  $\text{NH}_4\text{NO}_3$   $\rightarrow$  \_\_\_\_\_ atoms N  
Compound element

<del>10g <math>\text{NH}_4\text{NO}_3</math></del>	<del>1 mole <math>\text{NH}_4\text{NO}_3</math></del>	<del>2 mole N</del> <i>element</i>	<del><math>6.023 \times 10^{23}</math> atoms N</del>
80g $\text{NH}_4\text{NO}_3$	<del>1 mole <math>\text{NH}_4\text{NO}_3</math></del>	<del>1 mole N</del> <i>Compound</i>	1 mole N

Sep 25-8:37 AM

15) 300 molecules  $\text{CH}_3\text{CO}_2\text{H}$   
 \_\_\_\_\_ atoms O

$\text{CH}_3\text{COOH}$   
 ethanoic acid  
 2 C's

300 molecules $\text{CH}_3\text{CO}_2\text{H}$	2 atoms O	= 600
	1 molecule $\text{CH}_3\text{CO}_2\text{H}$	

<del>300 molecules <math>\text{CH}_3\text{CO}_2\text{H}</math></del>	<del>1 mole <math>\text{CH}_3\text{CO}_2\text{H}</math></del>	<del>2 mole C</del>	<del><math>6 \times 10^{23}</math> atoms O</del>
	<del><math>6 \times 10^{23}</math> molecules <math>\text{CH}_3\text{CO}_2\text{H}</math></del>	<del>1 mole <math>\text{CH}_3\text{CO}_2\text{H}</math></del>	<del>1 mole O</del>

Sep 25-8:42 AM