

№ 1.1

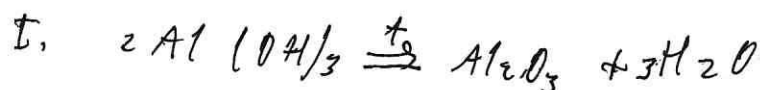
из условия получаем:

$$x:y:z:w = \cancel{3}:1:1:0,5 = 6:2:2:1$$

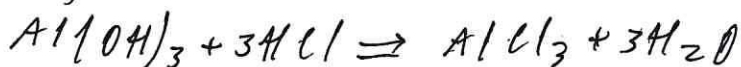
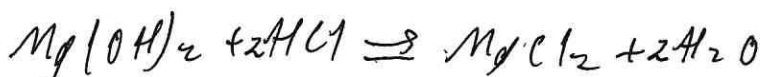
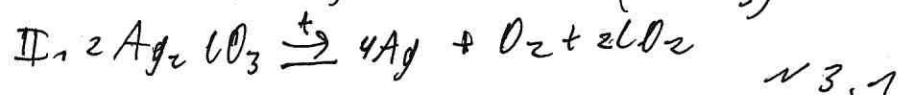
Пл.к. $x+y+z+w = 22 \Rightarrow x=12; y=\frac{4}{2}; z=\frac{4}{2}; w=\frac{4}{2}$

следовательно, формула вещества $C_{12}H_4Cl_4O_2$

№ 2.1



$$M(Al(OH)_3) = 78 < M(Al_2O_3) = 102 \Rightarrow \text{подсоединит } 10$$



$$n(HCl) = 3 \cdot 36,5 = 109,5 \text{ моль}$$

Пусть x моль $Mg(OH)_2$, y моль $Al(OH)_3$, тогда

$$\begin{cases} 2x + 3y = 10,5 \quad | \cdot (-29) \\ 58x + 78y = 282 \end{cases}$$

+



$$\begin{cases} -58x - 87y = -304,5 \\ 58x + 78y = 282 \end{cases} +$$

$$-9y = -22,5$$

$$y = 2,5$$

$$2) x = \frac{10,5 - 3 \cdot 2,5}{2} = 1,5$$

$$n(\text{Al}(\text{OH})_3) = 2,5 \text{ моль}$$

$$n(\text{Mg}(\text{OH})_2) = 1,5 \text{ моль}$$

$$m(\text{Al}(\text{OH})_3) = 2,5 \cdot 78 = 195 \text{ г}$$

$$m(\text{Mg}(\text{OH})_2) = 1,5 \cdot 58 = 87 \text{ г}$$

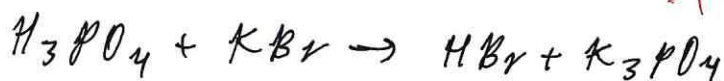
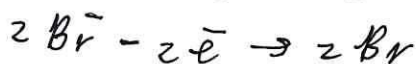
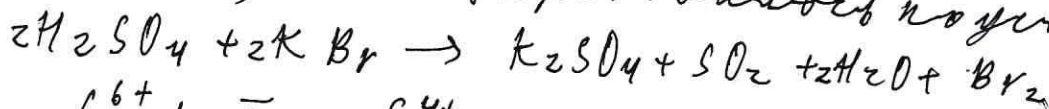
$$w(\text{Al}(\text{OH})_3) = \frac{195}{282} = 0,69$$

$$w(\text{Mg}(\text{OH})_2) = \frac{87}{282} = 0,31$$

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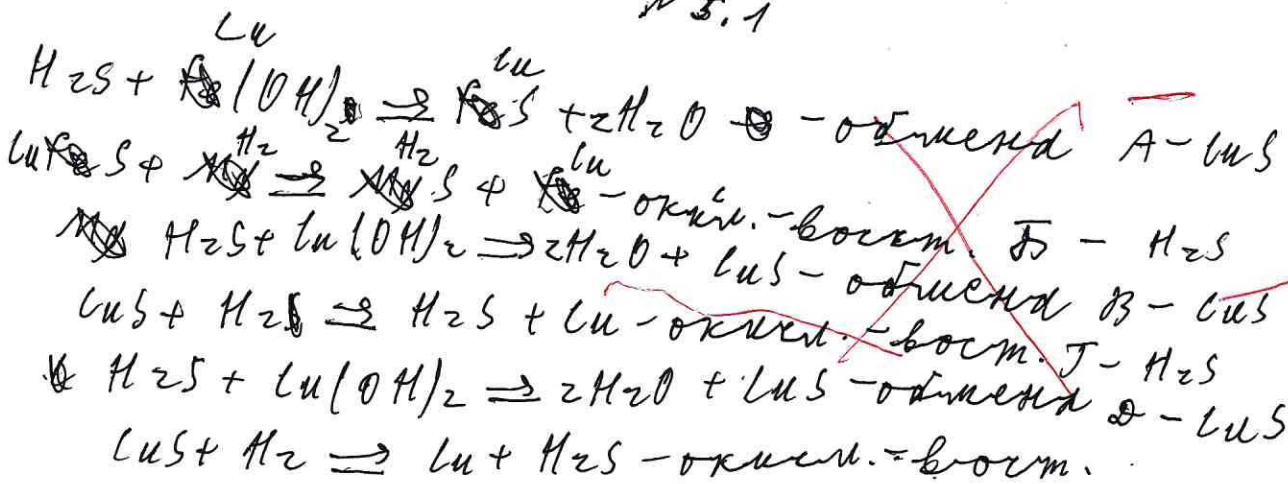
Можно выбрать H_3PO_4 и H_2SO_4 , т.к. $M_r(\text{H}_3\text{PO}_4) = 98 = M_r(\text{H}_2\text{SO}_4)$, как требовалось по условию.



+ + 8 6



N 5.1



N 6.1

Пусть $A_r(X) = x$, тогда по условию:

$$\frac{3x + 31 \cdot 2}{x + 12 + 48} = 1,5952$$

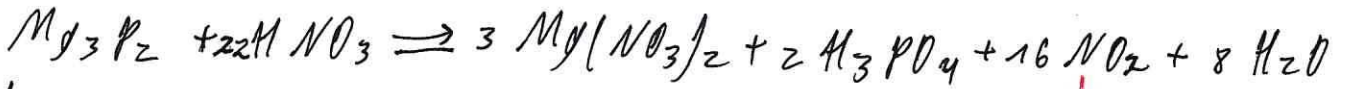
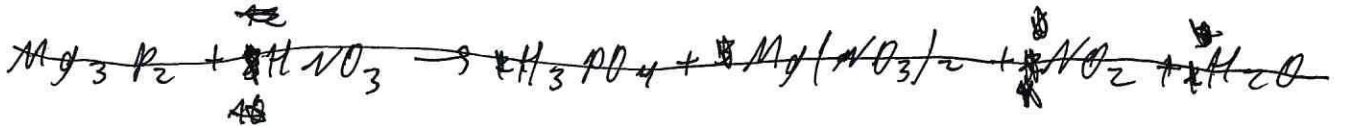
$$3x + 62 = 1,5952x + 95,712$$

$$1,4048x = 33,712$$

$$x = 24$$

$$\Rightarrow A_r(X) = 24 - \text{Mg}$$





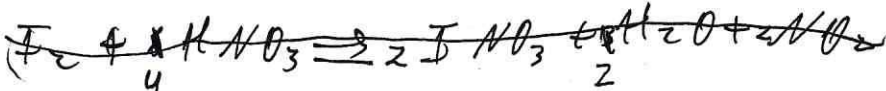
$n(Mg_3P_2) = 26,8 : 134 = 0,2 \text{ моль}$

$n(NO_2) = 16n(Mg_3P_2) = 16 \cdot 0,2 = 3,2 \text{ моль}$

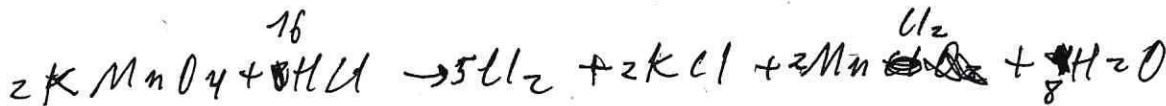
$m(NO_2) = 3,2 \cdot 46 = 147,2 \text{ г}$

~~17,1~~

+
+ 10

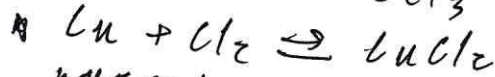
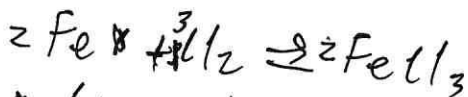


17,1



$n(KMnO_4) = 6,32 : 158 = 0,04 \text{ моль}$

$n(Cl_2) = \frac{5}{2} n(KMnO_4) = 0,1 \text{ моль}$



участ х моль - $n(Fe)$, у моль - $n(Cu)$, тогда:

1)
$$\begin{cases} 1,5x + y = 0,1 \cdot (-64) \\ 56x + 64y = 6 \end{cases}$$



80

$$\begin{cases} -96x - 64y = -6,4 \\ 56x + 64y = 6 \end{cases} +$$

$$-40x = -0,4$$

$$x = 0,01$$

$$y = 0,1 - 1,5 \cdot 0,01 = 0,085$$

$$n(\text{Fe}) = 0,01 \text{ моль}$$

$$n(\text{Cu}) = 0,085 \text{ моль}$$

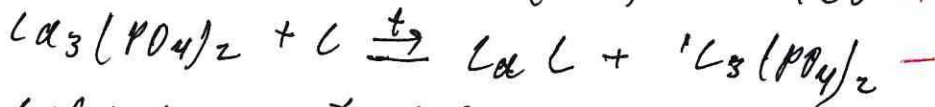
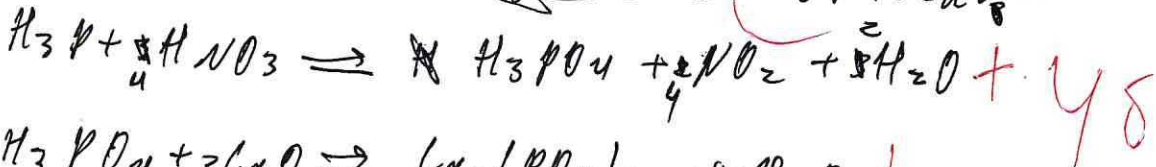
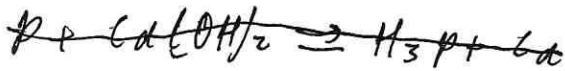
$$m(\text{Cu}) = 0,085 \cdot 64 = 5,44 \text{ г}$$

$$\omega(\text{Cu}) = 5,44 : 6 = 0,907$$

Сесарова
СНГ

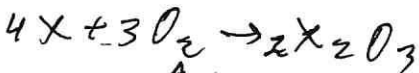
1	2	3	4	5	6	7	8	9	10
8	10	10	8		10		8	4	0

№ 1



№ 10.1

~~H_2O~~ X_2O_3 - оксид металла



нумерация $A_r(\text{X}) = x$, масса:

$$\frac{20,8}{x} = 2 \cdot \frac{30,4}{2x + 48}$$



$$\frac{20,8}{x} = \frac{60,8}{2x + 48}$$

$$41,6x + 989,4 = 60,8x$$

$$19,2x = 989,4$$

$$x = 52$$

