

Есеп 1

Берілгені:

$m = 22,80$
 $V(H_2) = 24,64$ л (г. н.)
 $n(Mg) = 1,6$ моль
 $- x$ моль MgO

Шешуі:

$2Al + 6HCl = 2AlCl_3 + 3H_2$
 $Mg + 2HCl = MgCl_2 + H_2$
 $n(Al) = x$ моль
 $n(Mg) = y$ моль

$m(Al) = 0,5x \cdot 27 = 13,5x$

$22,80 - 13,5x = 8,992 = 24,2$

$w(Mg) = \frac{8,99}{24,20} \cdot 100\% = 37,1\%$

$x = 1,6$

$27x + 24y = 22,80$

$40,5y + 24y = 22,80$

$22,4y = 24,64$

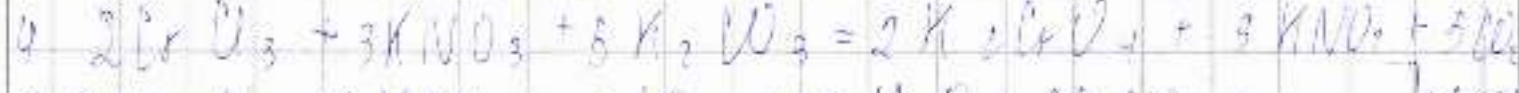
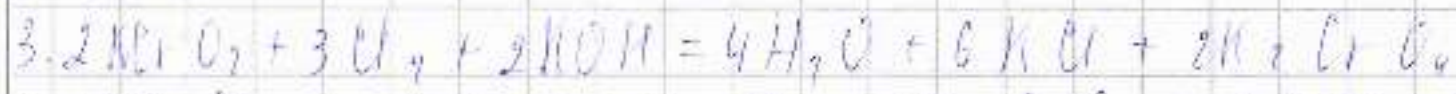
$30,4y = 22,64$

$22,8y = 27,64$

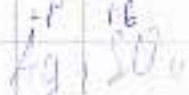
$y = 0,34$ моль

$x = 0,53$ моль

Hl. Mg



Есеп. 2

1) $x = Ag$ және H_2S құмыс сұйық салуға ұстағанда2) Қалыпта келтіру B 3) 100 г шұңқ $E = 0,0032 \text{ г}$ 

Меншігі:

$$c = \frac{N}{V}$$

$$c = \frac{0,00301}{0,1 \text{ л}} = 1 \cdot 10^{-3} \text{ моль/л}$$

$$\gamma = \frac{\text{Нергілігі}}{\text{Бағыты}} = \frac{0,0032}{1000 \text{ л}} =$$

$$= 0,1 \text{ л}$$

$$\rho = \frac{m}{M} = \frac{0,0032}{3,2} = 1 \cdot 10^{-3} \text{ моль}$$

№ 1.

Берілгені

$$m(\text{мамы}) = 20,80 \text{ г}$$

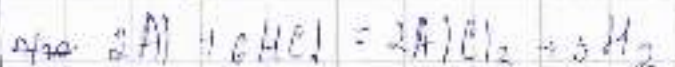
$$V(\text{H}_2) = 24,64 \text{ л (н. у.)}$$

$$n(\text{H}) = 1,5 \frac{\text{моль}}{\text{л}}$$

Т.к.

 $\text{Mg} - ?$ $\text{H}_2 - ?$

Шешуі.



$$n(\text{H}) = 1,5 \text{ моль/л}$$

$$n(\text{Mg}) = 0,5 \text{ моль}$$

$$\begin{cases} x = 1,5y \end{cases}$$

$$27x + 2y = 22,80 \text{ г}$$

$$40,5y + 2y = 22,80 \text{ г}$$

$$22,4 = \frac{3}{2} \cdot x + 22,4y = 24,64$$

$$50,4y + 22,4y = 24,64$$

$$y = 0,39 \text{ моль} \Rightarrow x = 0,58$$

$$22,4 \cdot \frac{3}{2} \cdot x + 22,4 \cdot 0,39 = 24,64$$

$$33,6x + 8,72 = 24,64$$

$$33,6x = 24,64 - 8,72$$

$$33,6x = 15,92$$

$$x = \frac{15,92}{33,6} = 0,47 \text{ моль}$$

$$m(\text{H}_2) = n \cdot M \Rightarrow 0,47 \cdot 2 = 0,94 \text{ г}$$

$$m(\text{Mg}) = 20,80 - 0,94 = 19,86 \text{ г}$$

$$\omega(\text{Mg}) = \frac{m}{M} = \frac{19,86}{20,80} = 95,24\% \rightarrow \boxed{4,76\%}$$

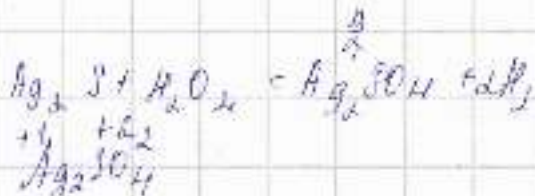
$$\omega = \frac{0,94}{20,80} \cdot 100\% = \boxed{4,52\%}$$

№2 есеп

1) $\lambda = Ag = 17$ г. серебро ағарту келуіне қолданылған



а) заманға келтіріңіз



$$E(Ag_2SO_4) = 0,032 \approx 0,0032 \text{ моль}$$

берімені

$$\rho = 1 \text{ см/с}$$

б) 100 см^3 $E = 0,0032$

$$\rho = 1 \text{ см/с}$$

Ag_2SO_4

Менші $\ell = \frac{A}{V} = \frac{0,00001 \text{ моль}}{0,01 \text{ м}} = 0,001 \text{ моль/м}$

$$c = 1 \cdot 10^{-3} \text{ моль/л}$$

$$V = \frac{n \cdot V_{\text{берімені}}}{\rho} = \frac{100,003}{1000 \text{ г/л}} = 0,1 \text{ л}$$

$$n = \frac{A}{V} = \frac{0,0032}{3 \text{ д}} = 1,1 \cdot 10^{-5} \text{ моль}$$

№3



N^o 1:

Бер:

$$m(\text{Ag}) = 22,80 \text{ г}$$

$$V(\text{H}_2) = 24,64 \text{ л}$$

$$\frac{n}{m_e}(\text{Ag}) = 1,25$$

м.к. Me = ?

$\omega = ?$



шешуі:



$$n(\text{Ag}) = \frac{x \text{ моль}}{n_{\text{Me}}} = y \text{ моль}$$

$$x = \frac{1,5y}{27 + m_e y} = 22,80$$

$$40,5y + m_e y = 22,80$$

$$\left(22,4 \cdot \frac{3}{2}\right) \cdot x + 22,4y = 22,64$$

$$50,4y + 22,4y = 24,64$$

$$72,8y = 24,64$$

$$y = 0,3$$

$$22,80 - 8,18 = 13,6$$

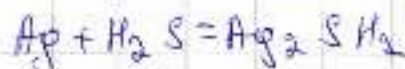
$$y = 0,3 \cdot 1,13 = 0,34$$

$$\omega = \frac{13,6}{5,62} = 1,42 \cdot 100\% = 142\%$$

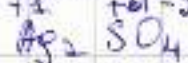
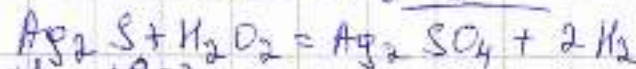
$$x = 27 \cdot 0,34 = 9,18$$

N^o 2

1) $x = \text{Ag}$ 17 жасында сурет салуға қолданған.



2) Қайлана келтіру в



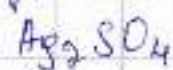
$$E(\text{Ag}_2\text{SO}_4) = 0,0322 / 100 \text{ сурға}$$

3) Бер:

100 сурға:

$$E = 0,00322$$

$$\rho = 1 \text{ кг/л}$$



шешуі:

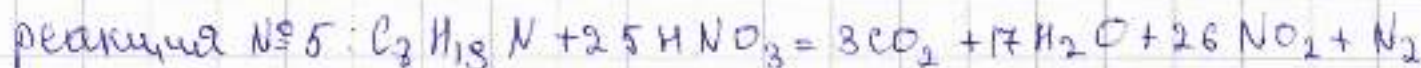
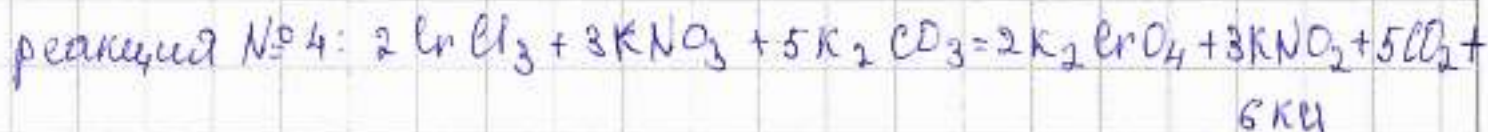
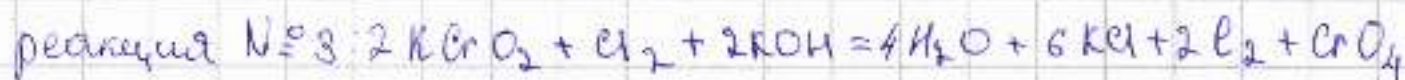
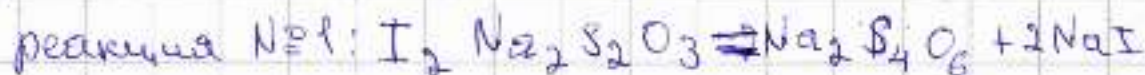
$$c = \frac{n}{V}$$

$$c = \frac{0,00001 \text{ моль}}{0,1 \text{ л}} = 0,001 \text{ моль/л}$$

$$c = 1 \cdot 10^{-3} \text{ моль/л}$$

$$V = \frac{\text{мерітінгі}}{\text{берітінгі}} = \frac{100,0032}{1000} = 0,1 \text{ л}$$

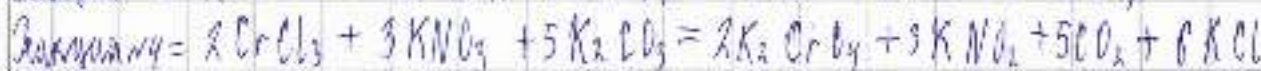
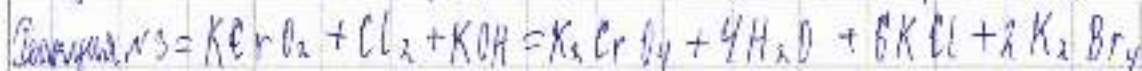
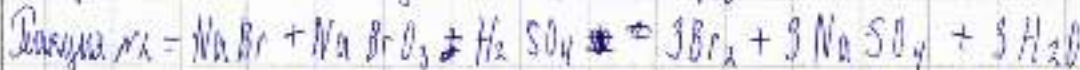
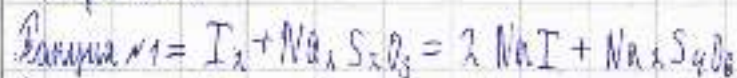
№3



№2:

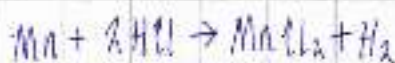
$$3) \eta = \frac{m}{M} = \frac{0,0032}{312} = 3,2 = 1 \cdot 10^{-3}$$

Тапсырма №3



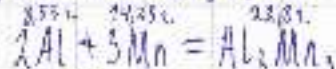
Тапсырма №1

Дано:



$m_{HCl} = 22,8g$

$V_{H_2} = 24,84л$



$21,4 - 2,25 = 19,15 (Mn)$

$V_{H_2} = 24,84л$

$n_{Al} = \frac{22,8g}{36,5g/mol} = 0,625mol$

$n_{Mn} = \frac{19,15g}{71g/mol} = 0,27mol$

$m_{Al} > m_{Mn} (1,25g)$

$N_{H_2} = ?$

$\frac{22,8}{36,5} \times \frac{19,15}{x} = x = \frac{19,15}{22,8} \cdot 100\% = 84\%$

Тапсырма №3

$x = Ag$