

14) Берілгені

1) $m(\text{Mg}) = 100 \text{ г}$

$v(\text{Cl}) = 65,82, 54,82$

$m/k: m(\text{Mg}) = ?$

Шешуі

$MgCl_2: 61,40$

$x = \frac{65,82 \cdot 22,4}{24} = 61,4$

$x = \frac{65,82 \cdot 54,82}{100} = 36$

2) Берілгені

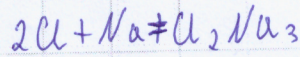
$m(\text{Cl}) = 50 \text{ мм}$

$\omega(\text{Cl}) = 12,0 \text{ мм}$

$v(\text{Na}) = 0,05$

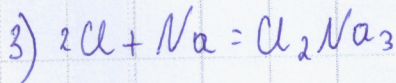
$m/k: m(\text{Na}) = ?$

Шешуі



$x = \frac{50 \text{ мм} \cdot 34 \text{ мм}}{12} = 14,1$

$x = \frac{50 \text{ мм} \cdot 12,0 \text{ мм}}{0,05} = 30$



№1. 1) Берілгені

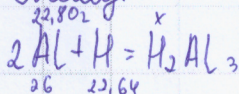
$$m(\text{Al}) - 22,80\text{г}$$

$$V(\text{газ}) - 24,64\text{л}$$

$$\omega(\text{Al}) - 1,25\%$$

$$m/k : m(\text{қоспа}) - ?$$

Шешуі



$$x = \frac{22,80 \cdot 24,64}{1,25} = 44,9$$

$$\text{Жауабы: } m(\text{қоспа}) - 44,9$$

2) Берілгені

$$\omega(\text{қоспа}) - 44,9$$

$$V(\text{сирті}) - 25\%$$

$$m/k : \omega(\text{сирті}) - ?$$

Шешуі

$$x = \frac{44,9 \cdot 25\%}{100\%} = 11,2$$

№3) 2) 1) $\text{S}_2\text{O}_3^{+6}$

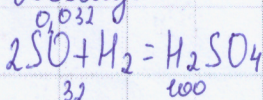
2) Берілгені

$$m(\text{H}) - 100\text{грамм}$$

$$\omega(\text{S}) - 0,032$$

$$m/k : V(\text{S}) - ?$$

Шешуі



$$x = \frac{0,0032 \cdot 100}{1} = 0,32 \quad \text{В қосылысы - S күжірт}$$

3) Берілгені

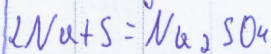
$$V(\text{Na}) - 22,2$$

$$m(\text{H}) - 1916\text{г}$$

$$V(\text{S}) - 20\text{л}$$

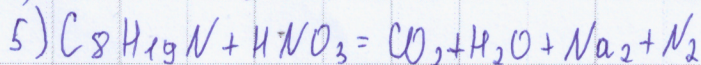
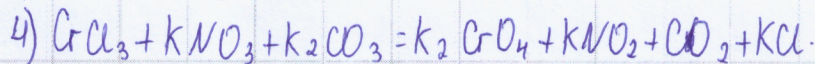
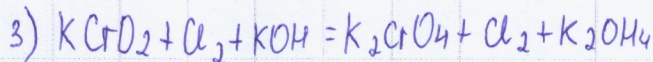
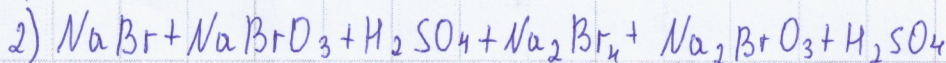
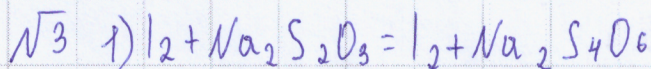
$$m/k : m(\text{S}) - ?$$

Шешуі



$$x = \frac{22,2 \cdot 44,8}{1916} = 0,5$$

$$x = \frac{22,2 \cdot 0,5}{20} = 0,5$$



№1.

Берілгені:

$$m(\text{Al}) - 22,802$$

$$y, \text{ x} - 24,644$$

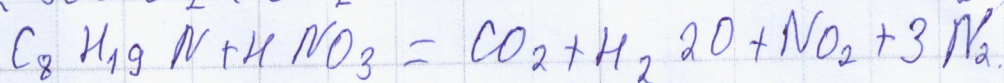
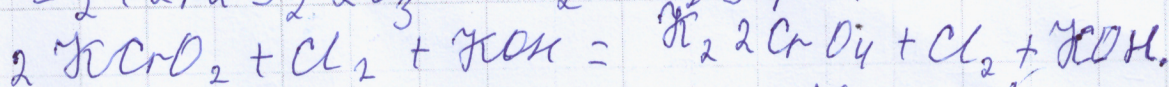
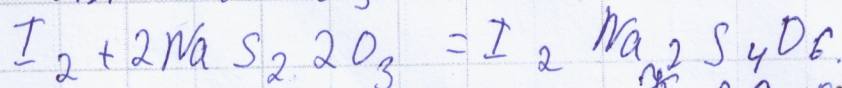
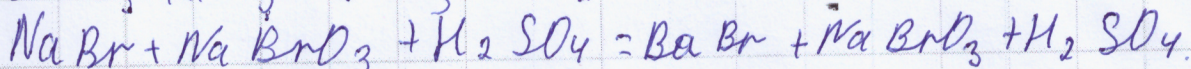
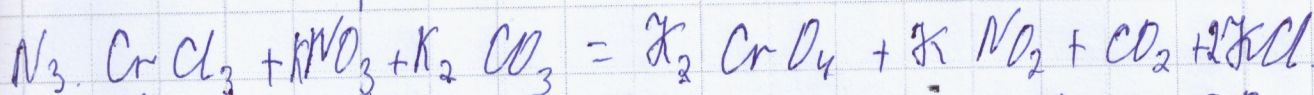
$$\text{Al} - 1,25 \text{ моль}$$

Шешуі:

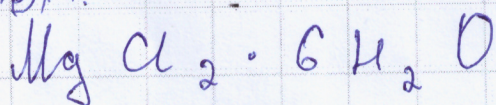
$$22,802 - 24,64 + 1,25 = -0,59.$$

$$25 + 1,185 = 26,185.$$

Түпк. м - ?



№1.4.



$$80^\circ\text{C} : 200 = 0,4.$$

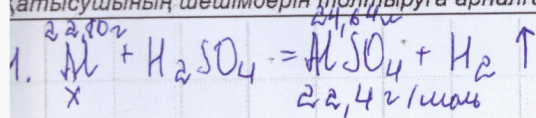
0

$$0,4 \cdot 20 = 8.$$

№2.

$$100 - 0,0032 = 99.$$

$$99 \cdot 1 = 99.$$



$$\begin{array}{l} 22,80г \text{ --- } 24,64г \\ x \text{ --- } 22,4г/моль \end{array}$$

$$x = \frac{22,80г \cdot 22,4г/моль}{24,64г} = 20,7г$$

$$w = \frac{m(M)}{m(M)}$$

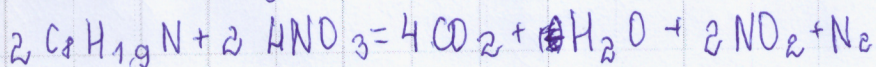
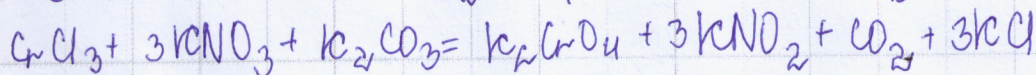
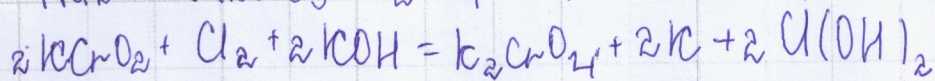
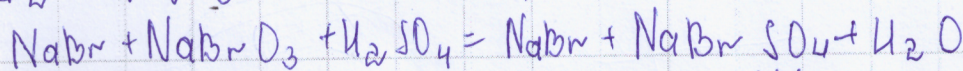
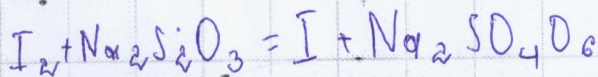
$$w = \frac{22,80г}{20,7г} = 1,11\%$$

$$V = \frac{w}{n} = \frac{25\%}{1,1\%} = 22,7г/л$$

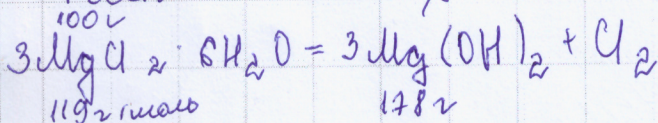
1 есен

Маусым: сипі ерітіндісінің қорғасын қалың $V = 22,7л$

3 есен



4 есен



$$\text{M}(\text{MgCl}_2) = 24 + 35,5 \cdot 2 = 119г$$

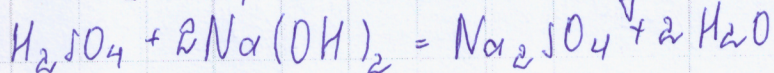
$$\begin{array}{l} 100г \text{ --- } x \\ 119г/моль \text{ --- } 178г \end{array}$$

$$x = \frac{100г \cdot 178г}{119г/моль} = 2,52г/моль$$

Маусым: кристалда гидраттау массасы $m = 2,52г/моль$

$$\text{M}(\text{Cl}_2) = 35,5 \cdot 2 = 71$$

Маусым: Cl-дың массалық үлесі 71

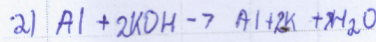
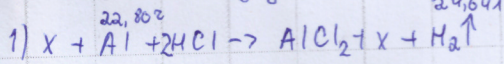


1-4 дейінгі реакция теңдеуі

атысушының шешімдерін толтыруға арналған өріс / Поле для заполнения решений участника

№1. Заттар қоспасы

Реакция теңдеуі:



X - Be Be - екі валентті

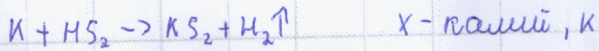
талыздығы - 1,185 г/мл

$$22,802 \cdot 1,25 = 28,52$$

25% - сімті ерітіндісі

Be массалық үлесі - 28,52

№2. Белгісіз заттар



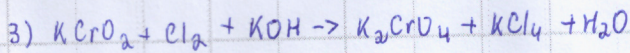
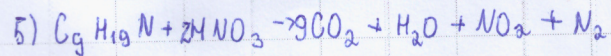
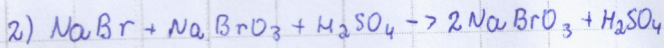
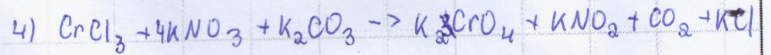
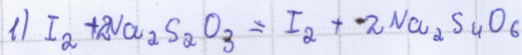
X - калий, K

B - күкірт S

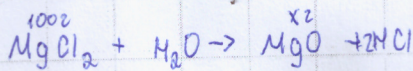
A - сутек, H

жартылай өдарау периоды - бастапқы заттың дәл өдарауға кететін уақыт.

№3. Түрлі-түрлі реакциялар



№4. Бишофит



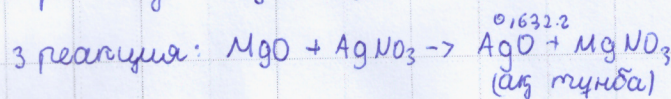
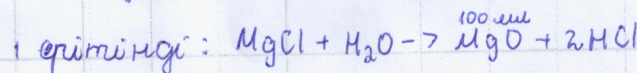
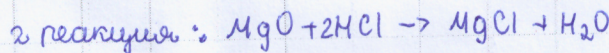
$$m(Mg) = 100g$$

$$n = \frac{m}{M_r} \rightarrow m = M_r \cdot n = (24 + 16) = 384 \cdot 0,291 = 111,5 = 0,291$$

$$m(MgCl) = 24 + 35 = 59$$

$$T_n = m(MgO) - ?$$

$$m = 0,291$$



a1

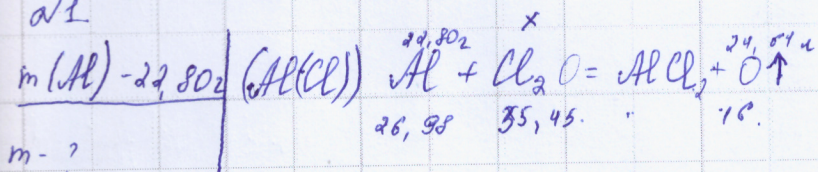
AlCl₃.

KaOH - 62,43 г

a2.

B₂SO₃SO₃.B₂S₃ = H₂ + B₂S₃.

a/1

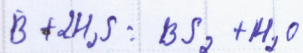


m - ?

$$\frac{22,802}{26,98} = 0,8 \quad \times \quad \frac{24,64}{16} = 1,54$$

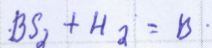
x =

a/2



x = B

A = BS



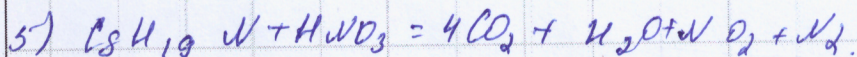
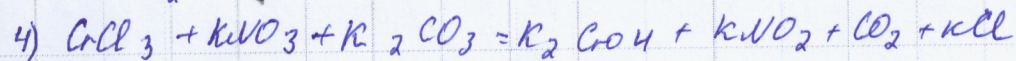
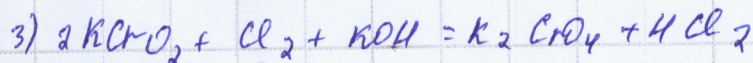
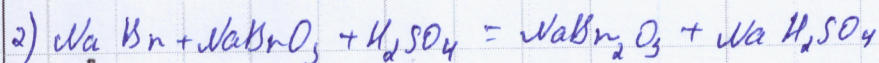
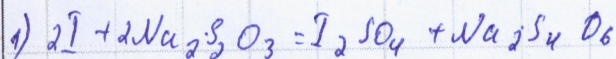
4) 22,2 гонда - 10 г оғурайдг.

33,3 гонда - 15 г оғурайдг.

43,4 гонда - 1,25 г оғурайдг.

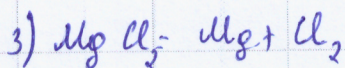
19,59 гонда - 1,25 г оғурайдг.

a/3.



a/4.

$$1) m(\text{Mg}) = 171,8 \text{ г/моль}$$

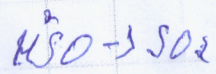


1) Заттар үстасы

Машықу рәсі

$$-24,64 + 1,25 = -24,89$$

$$\text{мәлімі } 25\% + 1,185 \text{ г/мл} = 1110 \text{ м} \text{ т/к} \quad \text{майдан: } 111,0 \text{ м}$$



Шешуі

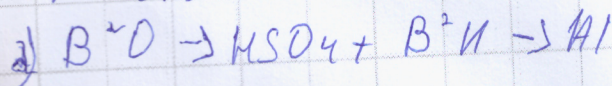
Al - M

2) Белгісіз заттар

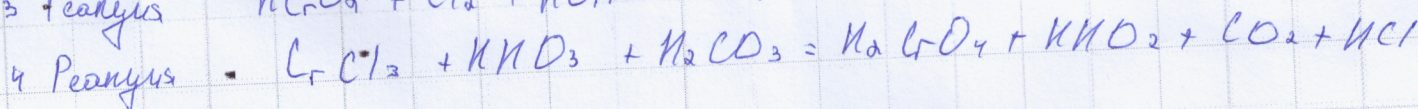
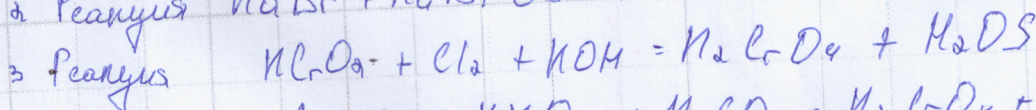
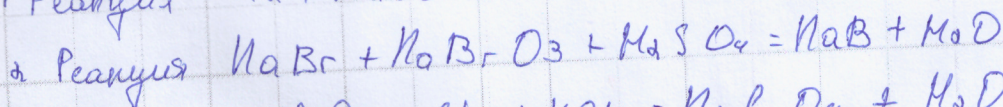
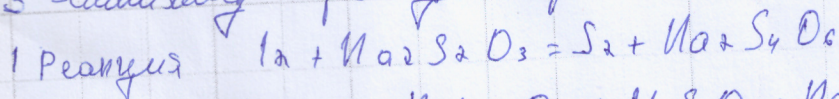
1) X металлы A металл селенісі

X металл SO_2 әрекеттеседі

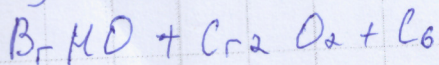
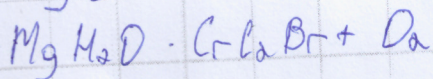
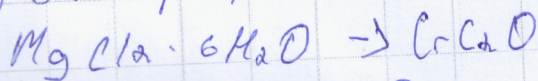
A металл H_2O SO_2



3) Химиялық реакциялар



4) Бишорит



$$200/170^\circ\text{C} = 40\% \text{C}$$

N1

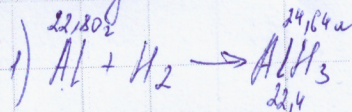
Берілгені

$$m(\text{Al}) - 22,80\text{г}$$

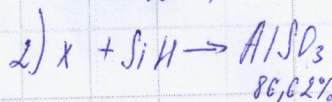
$$V(\text{метан}) - 24,64\text{л}$$

Т.к. қоспа - ?

Шешуі



$$V = \frac{22,80 \cdot 22,4}{100\% \cdot 22,4} = 25,08 \text{ л}$$



86,62%

N2

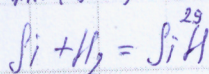
Берілгені

$$m(\text{метан}) - 86,62\%$$

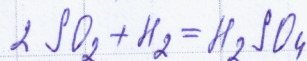
т.к. А қосым. масса - ?

Шешуі

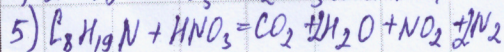
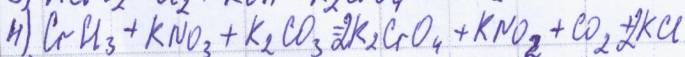
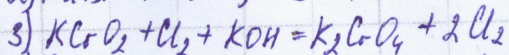
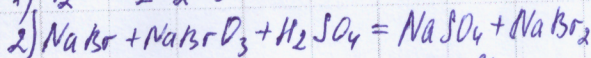
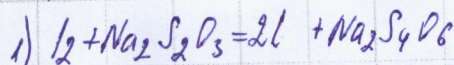
$$M(\text{SiH}) = 28 + 1 = 29$$



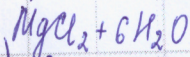
$$3) V(\text{S}) = 0,0032 : 100 = 0,32$$



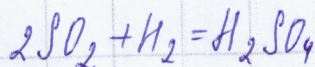
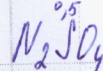
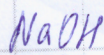
N3



N4



$$1) \frac{65,8 \cdot 54,8}{100} = 36,05$$



Есеп №1

Бер
 $m(\text{Al}) = 22,802$
 $V = 24,8 \text{ мл}$
 $\rho_{\text{Al}} = 2,7 \text{ г/см}^3$

Шешімі
 22.

Есеп №4

1. $m = ?$

$$\frac{65,82 \cdot 54,82}{100\%} = 36,32$$

$$1. 22,802 : 1,25 = 28,52 \text{ (қалыңдығы)}$$

$$2. \frac{1,1852 \text{ моль} \cdot 55\%}{4 \cdot 100\%} = \frac{1,1852 \text{ моль}}{4} = 0,2962 \text{ моль}$$

Есеп №2

$$a) \rho_{\text{Al}} = 2,7 \text{ г/см}^3 \Rightarrow 0,0032 \text{ м}^3 \cdot 2,7 \text{ г/см}^3 = 0,00864 \text{ т}$$

б)

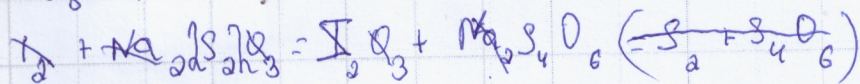
Есеп №4

а) $m = 0,2912$ Алынған масса $V = 100 \text{ мл}$ - не көрсетілген. $0,632 \text{ г}$ ағытуда тұзды.

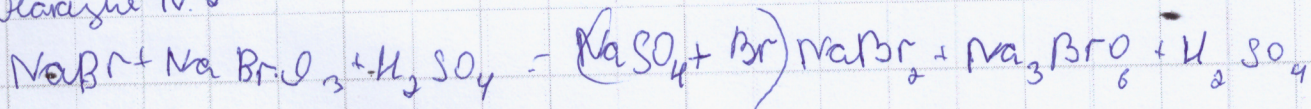
$$\frac{0,2912 \cdot 100 \text{ г}}{0,632 \text{ г}} = 22,62$$

№3. Есеп

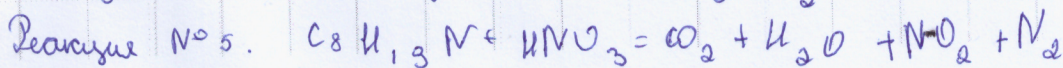
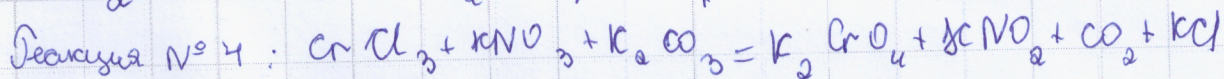
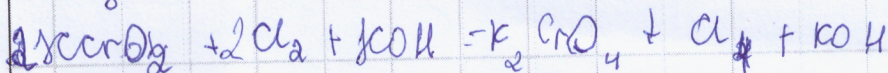
Реакция №1



Реакция №2



Реакция №3



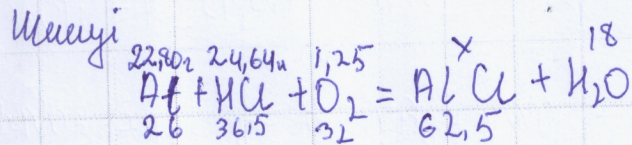
№1 Бөп

$$m = Al - 22,802$$

$$m = HCl - 24,64$$

$$V = O_2 - 1,25$$

Шешуі



$$M(Al) = 26$$

$$M(HCl) = 1 + 35,5 = 36,5$$

$$M(O_2) = 16 \cdot 2 = 32$$

$$M(AlCl_3) = 26 + 36,5 = 62,5$$

$$M(H_2O) = 1 \cdot 2 + 16 = 18$$

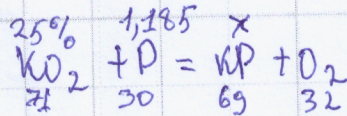
$$m = \frac{V}{M} = \frac{1,25}{22,802} \cdot 24,64 = 1,35$$

№2

Бөп:

$$m = KO_2 = 25\%$$

$$P = P - 1,852 / \text{мл}$$



$$M(KO_2) = 39 + 16 \cdot 2 = 71$$

$$M(P) = 30$$

$$M(KP) = 39 + 30 = 69$$

$$M(O_2) = 16 \cdot 2 = 32$$

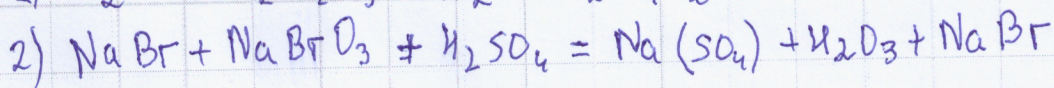
$$\frac{25\%}{71} < \frac{1,85}{30}$$

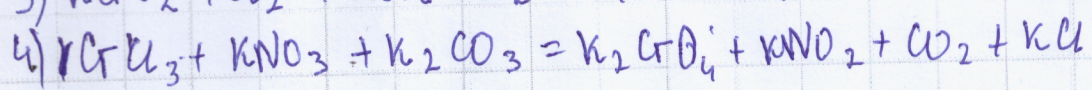
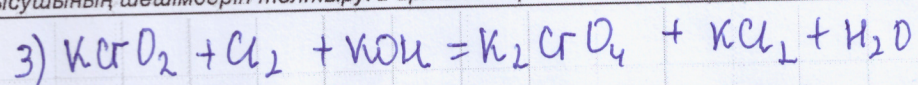
$$\frac{25\%}{71} = \frac{x}{69} = 0,242 / \text{мл}$$

№2, 4

$$1,25 \cdot 2 = 199120$$

№3-5





атысушының шешімдерін толтыруға арналған өріс / Поле для заполнения решений участника

N1

Терінісі:	Мемісі:
$m(\text{HCl}) = 22,80$	$\frac{22,80}{1,25} = \frac{24,64}{25}$
$\text{HCl} - 24,64 \text{ г}$	
$m(\text{H}_2\text{O}) = 1,25 \text{ г}$	$\frac{22,80}{1,25} = 11,85$
$m(\text{Ca}) - ?$	$\frac{24,64}{25} = 9,85$

N4

$$\text{MgCl}_2 \cdot 6\text{H}_2\text{O}$$

$$\frac{200}{80} = 2,5$$

$$2,5 \cdot 20 = 500$$

$$\frac{500}{1000} = 50\%$$

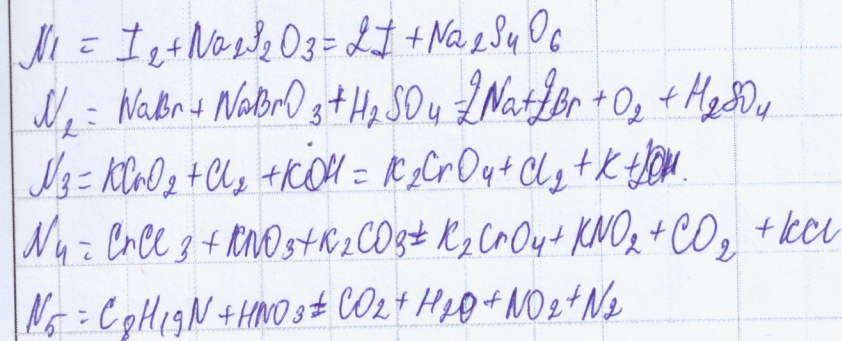
N2

Терінісі:	Мемісі:
A - ?	1) Cu + A + X
X - ?	2) B + Cu = 1 м/л - 0
$m(\text{A}) = 86,62 \text{ г}$	3) 4,440
t - 1 м/л	
бүгірәт n = 22,2 г	
$m(\text{Cu}) = 20 \text{ г}$	

N5 N1

Терінісі:	Мемісі:
$\text{MgCl} - 100 \text{ г}$	$\frac{65,80}{54,8} = 128$
t = 80 °C	
C = 65,82	1 пек - 0,341
	2 пек - 3%
	3 пек - 1,264

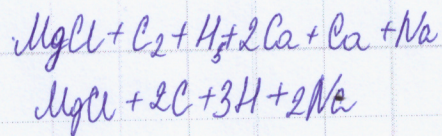
N3



N2

Терінісі:	Мемісі:
Na - 12,0 мл	$12,0 \cdot 0,05 \text{ M} = 600 \text{ M}$
Mg - 50 мл	$6000 : 50 = 1200$
m/k - A - ?	

N3 -



7

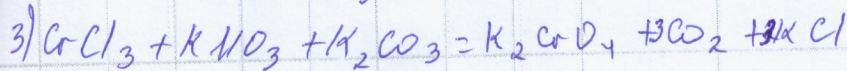
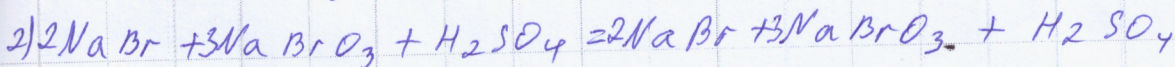
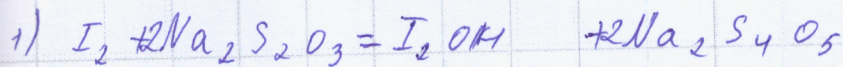
$$\begin{aligned}
 1) \quad & 22,64; 22 = 1,1 \\
 & 1 + 35,5 = 36,5 \\
 & 36,5 + 22,80 = 59,3 \\
 & 1,1 + 59,3 = 60,04 \\
 & 60,04 \cdot 1,25 = 75,5
 \end{aligned}$$

$$\begin{aligned}
 2) \quad & 1,185r \quad \cancel{22,4u} \\
 & x \quad \text{---} \quad 25\% \\
 & x = \frac{1,185 \cdot 25}{22,4} \cdot 100\% \\
 & x = 132,25
 \end{aligned}$$

$$\begin{aligned}
 1) \quad & 16 \cdot 32 = 512 \\
 & 512 + 6 = 518
 \end{aligned}$$

$$2) \quad 100 \cdot 0,0032 = 0,32$$

$$3) \quad 0,32 \cdot 18 = 5,76$$



$$1) \quad (m(MgCl)) = 80^\circ C$$

$$(65,8)$$

$$100 \quad \text{---} \quad 100^\circ C$$

$$65,8 \quad \text{---} \quad 54,8$$

$$\frac{100 \cdot 54,8}{65,8 \cdot 54,8} = \frac{5480}{6580} = 0,83$$

$$2) \quad 0,83 \cdot 35,5 = 29,46$$



2

3

4