

01

№ 1

$$1) \text{ } ^{70}\text{Zn} + \text{ } ^{30}\text{Zn} = 100\text{Z}$$

$$2) 3$$

$$3) 103$$

№ 2

$$1) S = 32 \text{ г}$$

$$2) p = 10 \text{ мм}$$

№ 3

1) Берілгені: Формула: Шешуі:

$$m = 1,7 \text{ кг}$$

$$\Delta T = T_2 - T_1 \quad \Delta T = 100^\circ\text{C} - 25^\circ\text{C} = 75^\circ$$

$$T_1 = 25^\circ\text{C}$$

$$Q = m_c \Delta T \quad Q = 4186 \cdot 75 =$$

$$T_2 = 100^\circ\text{C}$$

$$m_c = 4186 \text{ Дж кг}^{-1}$$

$$m_{\text{ж}}: Q = ?$$

01

2) Берілгені

Формула: Шешуі:

$$\mu_s = 3,36 \cdot 10^5 \text{ Дж/кг}^{-1}$$

$$Q = \mu_c \cdot \rho$$

$$Q = 4186 \text{ Дж/кг}^{-1} \cdot 121 \text{ м} \cdot \text{с}^{-1} = 4186 \text{ Дж}$$

$$\mu_c = 4186 \text{ Дж/кг}^{-1}$$

$$\rho = 121 \text{ м} \cdot \text{с}^{-1}$$

Тапс.: $Q = ?$

3) Берілгені

Формула

Шешуі:

$$t = 2 \text{ мин}$$

$$Q = \mu_c \cdot \Delta T$$

$$m = \frac{Q}{\mu_s} = \frac{0,084 \text{ Вт} \cdot \text{с}^{-1}}{3,36 \cdot 10^5 \text{ Дж/кг}} = 1,7 \text{ Дж}$$

$$Q = 0,084 \text{ Вт} \cdot \text{с}^{-1}$$

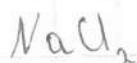
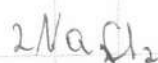
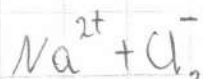
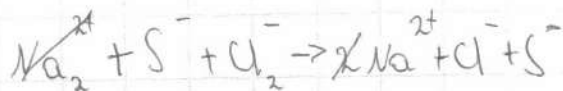
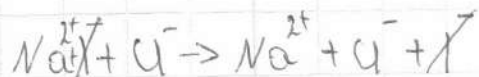
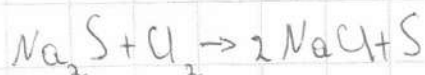
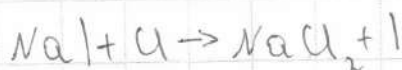
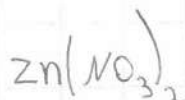
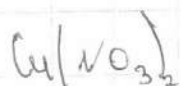
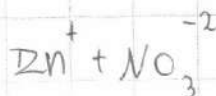
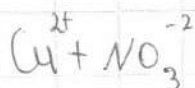
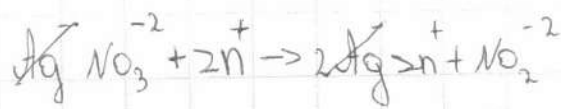
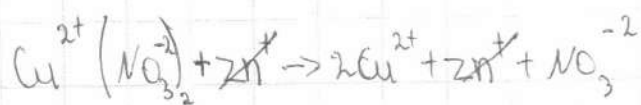
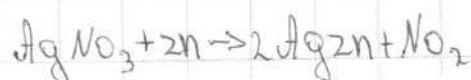
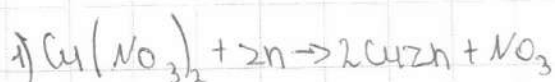
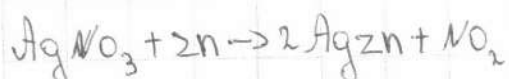
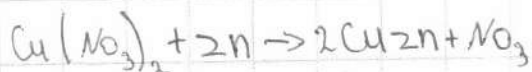
$$m = \frac{Q}{\Delta T}$$

$$T = 15^\circ \text{C}$$

$$\mu_s = 3,36 \cdot 10^5 \text{ Дж/кг}^{-1}$$

Тапс.: $m = ?$

№ 4



02

21.1

Берімені:

$$m/2n = 702$$

m/s 230

 $\omega(2nS/2)?$ $m(\text{ZnS}) = ?$

Меню:

$$\text{Zn} + \text{S} \rightarrow \text{ZnS}$$

n_2 1 mole	1 mole
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Мз 652/моч 97 /моч

$$m = \frac{97}{65} = 21,32.$$
$$m(2ns)_{21,32}$$
$$\omega(2ns) = \frac{m(\text{kechag})}{m(s)} = \frac{1,3}{30} \approx 0,04333333333 \approx 4\%$$
$$m \geq \frac{n}{4}$$

N^o. 2.

Берімей:

 $m(\text{ZnS}) = 21,22.$
$$m(H) : m(BrH) = ?$$

Maniz.

$$\overset{1,2}{\text{ZnS}} + \overset{x}{\text{BrH}} = \text{ZnH} + \text{BrS}$$

hitherto	hitherto
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М2974молв 812/молв
-1,2 X

$$x_2 = \frac{81.12}{9.7} = 192$$
$$\lambda_{\text{Ca}} = 1,022 \text{ nm}$$

N₂. 1
Беріамін:

$$m(\text{HNO}_3) = 52$$
$$\frac{m(\text{H}_2\text{SO}_4)}{m(\text{HNO}_3)}$$

мол. моль

$$x = \frac{98 \cdot 5}{63} = \frac{490}{63} \approx 7,6$$

N2.2.

Experiment 1

$\rho = 20\%$

$\rho = \frac{1,219 \text{ g}}{u}$

$m(\text{KCl}) = 2$

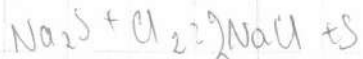
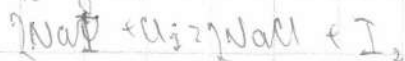
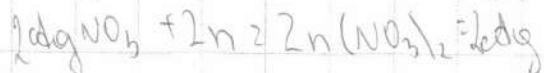
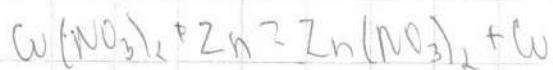
Mass

$V_2 = 2,09 \text{ ml}$

02

N3.1	
Берілгені:	Шешуі
$m = 1,7 \text{ кг}$	$Q = cm\Delta T$
$T_1 = 298 \text{ K}$	$Q = 1,7 \cdot 4186 \cdot (373 - 298) = 1,7 \cdot 4186 \cdot 75 = 533715$
$T_2 = 373 \text{ K}$	Жауабы: $Q = 533715 \text{ Дж}$
$c = 4186 \frac{\text{Дж кг}^{-1}}{\text{K}}$	
$Q = ?$	
N3.2	
Берілгені:	Шешуі
$L = 3,36 \cdot 10^5 \text{ Дж кг}^{-1}$	$Q = cm\Delta T \quad m = L$
$c = 4186 \frac{\text{Дж кг}^{-1}}{\text{K}}$	$Q = 4186 \cdot 3,36 \cdot 10^5 \cdot (0 - 0) = 0$
ΔT	$Q = 0 \text{ Дж}$
$\rho = 1 \text{ кг м}^{-3}$	
$Q = ?$	
N3.3	
Бері:	Шешуі:
$t_{22} \text{ мин} = 120 \text{ с}$	$Q = mL \quad m = \frac{Q}{L}$
$\lambda = 0,084 \text{ Вт м}^{-1} \text{ K}^{-1}$	$Q = cm\Delta T$
$S = 0,15 \text{ м}^2$	$Q = 3,36 \cdot 10^5 \cdot 0,15 \cdot 0,22 \cdot 288 = 9786,44 \text{ Дж}$
$Q = 0,2 \text{ м}^3$	$Q = 9786,44 \text{ Дж}$
$T_0 = 15^\circ \text{C} = 288 \text{ K}$	$m = \frac{9786,44}{0,084} = 1165,12$
$c = 3,36 \cdot 10^5 \text{ Дж кг}^{-1}$	жауабы: $m (\text{м}^3) = 1165,12$
$m (\text{м}^3) = ?$	

НЧ.1.



НЧ.2.

Берілгені:

$$V(\text{AgNO}_3) = 100 \text{ мл}$$

$$V(\text{H}_2\text{S}) / V(\text{Na}_2\text{S}) = 100 \text{ мл}$$

$$\rho = 1,192 \text{ г/мл}$$

$$V(\text{NaCl}) = 10 \text{ мл}$$

$$n(\text{NaCl}) = 8 \text{ м}$$

$$m(\text{Zn}) = ?$$

03

№1.

Б

$$m(\text{Zn}) = 70 \text{ г}$$

Ш:

$$\frac{100 \text{ г}}{1 \text{ моль}} + \frac{30 \text{ г}}{1 \text{ моль}} = \frac{70 \text{ г}}{1 \text{ моль}}$$

$$m(\text{S}) = 30 \text{ г}$$

$$w = ?$$

$$m(\text{ZnS}) = ?$$

$$m = \frac{94}{65} = 1,32$$

$$m(\text{ZnS}) = 1,32$$

$$w(\text{ZnS}) = \frac{1,3}{30} = 0,04 \cdot 100\% = 4\%$$

№3.

Б

$$m = 1,4$$

$$c_s = 4186 \text{ Дж/кг} \cdot \text{°C}$$

$$t_1 = 25^\circ \text{C}$$

$$t_2 = 100^\circ \text{C}$$

$$Q = ?$$

Ш:

$$\Delta T = ?$$

$$\Delta T = T_2 - T_1 = ?$$

$$\Delta T = 75$$

$$Q = mc_s \Delta T = 1,4 \cdot 4186 \cdot 75 = 4337150 \text{ Дж}$$

$$Q = 4337150 \text{ Дж}$$

Б

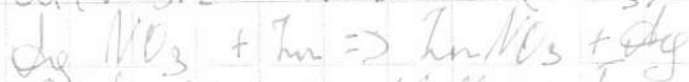
$$m = 350 \text{ г}$$

$$Q = ?$$

Ш:

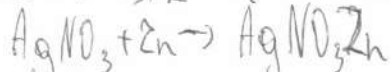
$$Q = 350 \cdot 100 = 350 \cdot 0,1 = 350$$

№4.



04

№ 4. Амиастық реакцияны.



2.

Бері: $m = 100 \text{ г}$

$\rho = 1.18 \text{ г/мл}$

$m_{\text{керек}} = m_{\text{н}} = ?$

Шешуі:

$$m_{\text{н}} = \frac{m}{\rho}$$

$$m = \frac{100 \text{ г}}{1.18 \text{ г/мл}} = 1.8 \text{ г}$$

№ 1. Есен. Қоспа.

1.

Берілеті: $m_{\text{н}} = 70 \text{ г}$

$m_{\text{к}} = 30 \text{ г}$

$m_{\text{к}} = m_{\text{н}} = ?$

2. Берілеті: $m_{\text{н}} = 70 \text{ г}$

$m_{\text{к}} = 30 \text{ г}$

$m_{\text{н}} = 2100 \text{ г}$

мағыл керек: $E_{\text{с}} = ?$

Шешуі: $m_{\text{н}} = m_{\text{н}} \cdot m_{\text{к}}$

$$m_{\text{н}} = 70 \text{ г} \cdot 30 \text{ г} = 2100 \text{ г}$$

$$E_{\text{с}} = \frac{m_{\text{н}}}{m_{\text{к}}} \cdot m_{\text{к}}$$

$$E_{\text{с}} = \frac{2100 \text{ г}}{70 \text{ г}} \cdot 30 \text{ г} = 900 \text{ г}$$

3.

Берілеті: $m_{\text{н}} = 70 \text{ г}$

$m_{\text{к}} = 30 \text{ г}$

$m_{\text{н}} = 2100 \text{ г}$

$E_{\text{с}} = 900 \text{ г}$

$m_{\text{к}}: A = ?$

Шешуі: $A = \frac{E_{\text{с}}}{m_{\text{к}}} \cdot \frac{m_{\text{н}}}{m_{\text{н}}}$

$$A = \frac{m_{\text{н}}}{E_{\text{с}}} \cdot \frac{m_{\text{к}}}{m_{\text{н}}}$$

$$(A = \frac{900 \text{ г}}{30 \text{ г}} \cdot \frac{2100 \text{ г}}{70 \text{ г}} = 30 \text{ г})$$

$$A = \frac{2100 \text{ г}}{900 \text{ г}} \cdot \frac{30 \text{ г}}{70 \text{ г}} = 1.2$$

04

№1. Есеп. Қоспа.

1. $m_1 = 2100$. Барынша: 8 үлгі = 892

2. Барынша: 8 үлгі = 892

3. Салыстырмалы $m = 2100$

№2. Есеп. Азот қызылдануы

1. $m = 3$

2. 4м қалың алуға қажет. Әр үлгіде.

№3. Есеп. Массалық орташа.

1. $Q = 71,162$

Бер: $m = 1,7$

$L_f = 4186 \text{ Дж кг}^{-1} \text{ К}^{-1}$

табу керек: $Q = ?$

Шешуі:

$Q = m L_f$

$Q = 1,7 \text{ кг} \cdot 4186 \text{ Дж кг}^{-1} \text{ К}^{-1} = 71,162 \text{ Дж}$

2. Бер: $t = 3,36 \cdot 10^5$

$L_f = 4186 \text{ Дж кг}^{-1} \text{ К}^{-1}$

$Q = 71,162 \text{ Дж}$

табу керек: $R = ?$

Шешуі:

$R = \frac{Q}{t} \cdot L_f$

$R = \frac{71,162}{3,36 \cdot 10^5} \cdot 4186 \text{ Дж кг}^{-1} \text{ К}^{-1} =$

№3.

Бер: $R = 0,084 \text{ Вт м}^{-1} \text{ К}^{-1}$

$A = 0,15 \text{ м}^2$

$d = 0,25$

$t_r = 15^\circ \text{C}$

$t = 3,36 \cdot 10^5 \text{ Дж кг}^{-1}$

табу керек: $R = ?$

Шешуі:

$R = \frac{Q}{t} = \frac{KA(T_r)}{d} \quad R = \frac{KA(T_r)}{d}$

$R = \frac{0,084 \text{ Вт м}^{-1} \text{ К}^{-1} \cdot 0,15 \text{ м}^2 (15^\circ \text{C})}{0,25} =$

Задача 1. Смесь

1) Дано:

$$m = 70\text{г}$$

$$m = 30\text{г}$$

$$M = ?$$

Решение:

$$M = \frac{V}{m}$$

$$V = 70 + 30 = 100$$

$$M = \left(\frac{100}{70+30} = 1 \right) 100 \cdot 100 = 10000$$

2) Для полного растворения водорода понадобится 14,5 грамма водорода.

3) Понадобившись грамма водорода $10000 \cdot 14,5 = 14,0005$

Задача 2.

2) Дано:

5г азот нитрата

$$\rho = 1,2419$$

$$V = ? \text{ л } 10\%$$

Решение

$$\left(V = \frac{\rho \cdot m}{\rho} = \frac{1,2419}{5} = 2,4838 \right)$$

$$V_1 = \rho \cdot m = 1,2419 \cdot 5 = 5,109$$

$$V = V_1 \cdot 20\% = 5,109 : 10\% = 45,45$$

1) $V = 5 \cdot 194 = 975$ серной кислоты

Задача 3.

1) Дано:

$$m = 14\text{г}$$

$$T_1 = 25^\circ\text{C}$$

$$T_2 = 100^\circ\text{C} \uparrow$$

$$L_{\text{ж}} = 4,186 \text{ Дж/кг}^\circ\text{C}$$

$$Q = ?$$

Решение:

$$\Delta T = T_2 - T_1 = 100^\circ\text{C} - 25^\circ\text{C} = 75^\circ\text{C}$$

$$Q = \frac{4280 + 47}{25} = \frac{4287,7}{25} = 171,51$$

2) $\lambda = 3,36 \cdot 10^5 \text{ Дж м}^{-1}$

Дано:

$\lambda = 3,36 \cdot 10^5 \text{ Дж м}^{-1}$

$T = 0^\circ$

$L = 4188 \text{ Дж}^{-1} \text{ м}^{-1}$

Решение:

$\frac{3,36 \cdot 10^5 \cdot 0}{4188} = 0^\circ$

Задача 4.



2) Дано

$m = 100 \text{ мм}$

$\rho = 11871 \text{ мм}$

$m = 100 \text{ мм}$

$100 \text{ мм} \text{ PV}$

Решение:

$100 \cdot 100 = 10000 - 1,8 = 9998$

06

- №1
- $H_2S + O_2 \xrightarrow{\text{артық}} O_2 + H_2O$
 - $NH_3 + O_2 \xrightarrow{\text{кем}} N_2 + H_2O$
 - $Na + HClO_3 \rightarrow NaClO_3 + HCl$
 - $S + H_2O_2 \rightarrow SO_2 + H_2O$
 - $H_2SO_4 + NaOH \rightarrow Na_2SO_4 + H_2O$
 - $HBr + NaOH \rightarrow NaBr + H_2O$
 - $NaCl + Pb(WO_3)_2 \rightarrow 2PbCl + NaNO_3$

№2

Бер:

X метал - 142

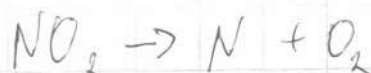
↓

мүзіндегі - $4 \cdot 472 O_2$

$\omega = 68.4\%$

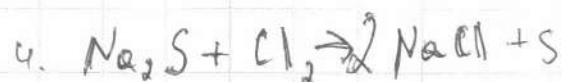
$X = ?$

Шешуі:



маңадс: $142 = N$
мүдес: $NO_2 \rightarrow N + O_2$

№3.1



1. Zn най элемент Cu айнастырады

2. Zn най элемент Ag айнастырады

3. Cl най элемент I айнастырады

4. Cl най элемент S айнастырады.

№4

Бер:

$$A = 2 \text{ мом} / \text{н}^{-1}$$

$$t = 2 \text{ с}$$

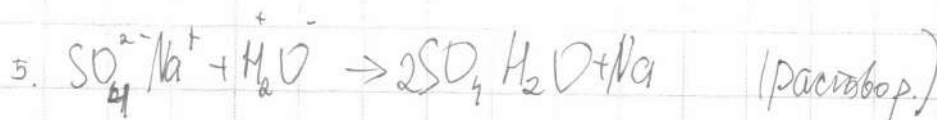
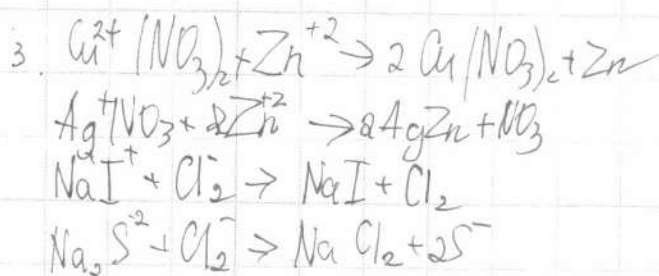
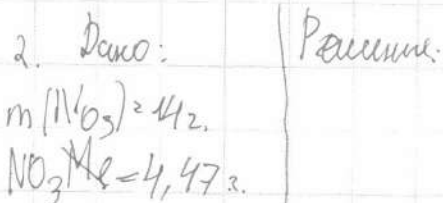
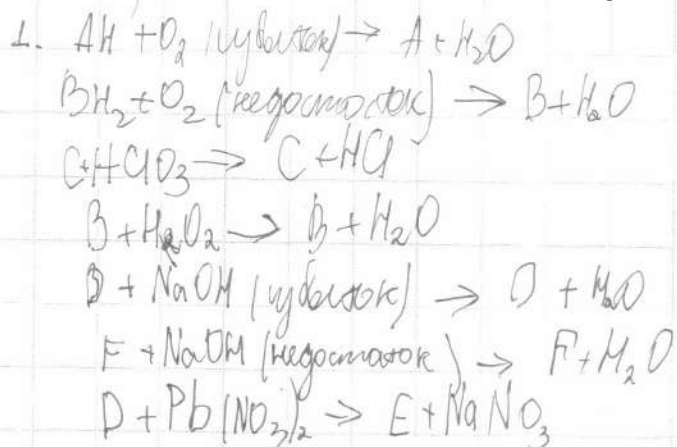
$$k_1 = 1$$

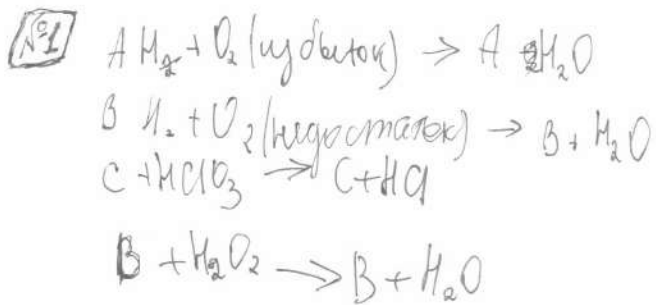
$$k_2 = 1.5 \text{ с}^{-1}$$

Менуі:

$$t = \frac{k_1}{k_2 - k_1} (e^{-k_1 t} - e^{-k_2 t}) [A]_0$$

$$t = \frac{1}{1.5 - 1} (e^{-1} - e^{-1.5}) 2 \text{ мом} / \text{н}$$

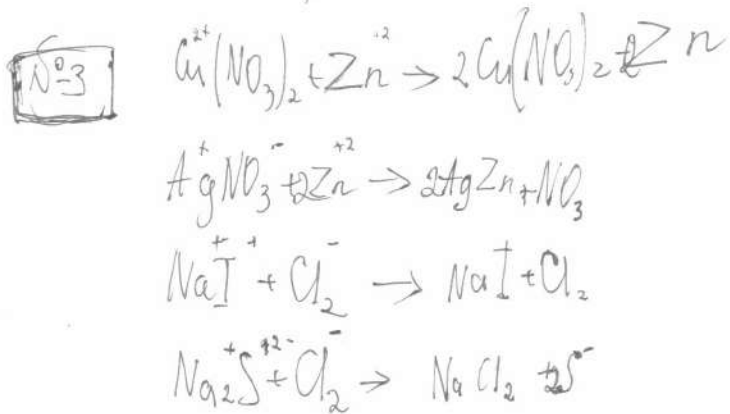
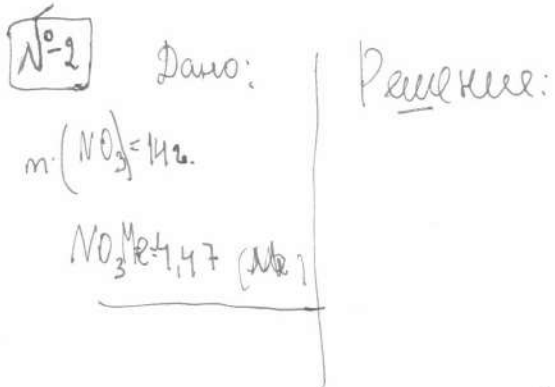




07

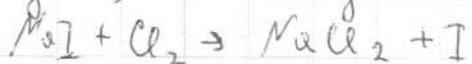
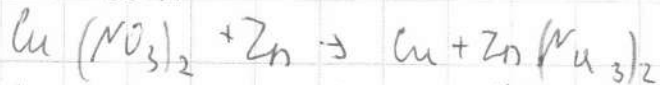
Дробом

Анастасия 10
Курс

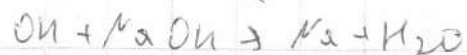


№4

N3 Есеп



N1 Есеп

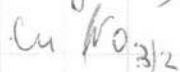


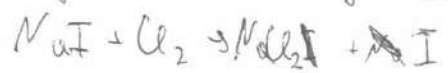
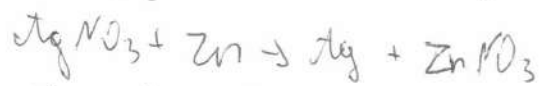
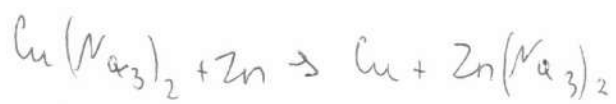
N2 Есеп

Дерн

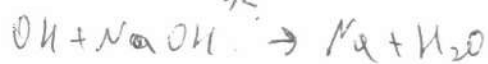
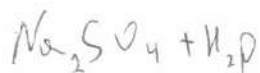
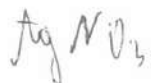
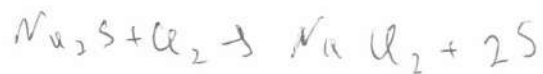
$$m(\text{HNO}_3) = 142$$

$$m(\text{NaOH}) = 11,472$$





08



2)

Дер-м

502

$$m = (X \text{ NO}_3) \cdot 142$$

$$m(\text{H}_2\text{O}) = 4.472$$

$$\text{масса} = 66.4\%$$