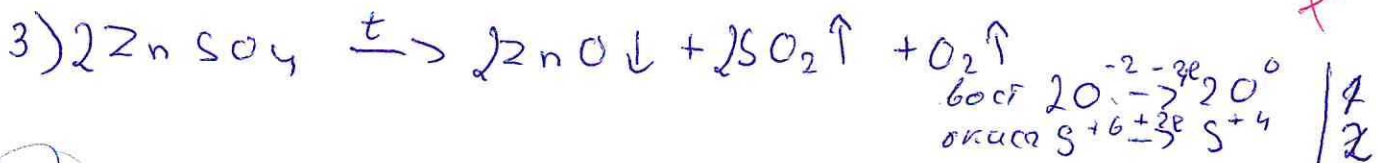
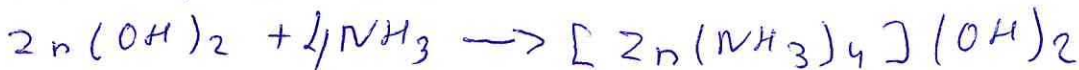
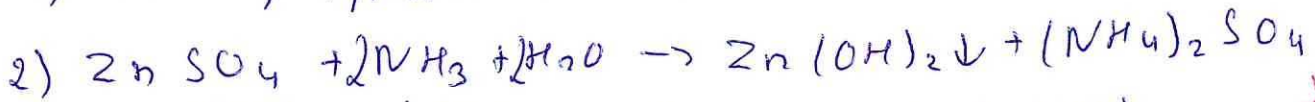
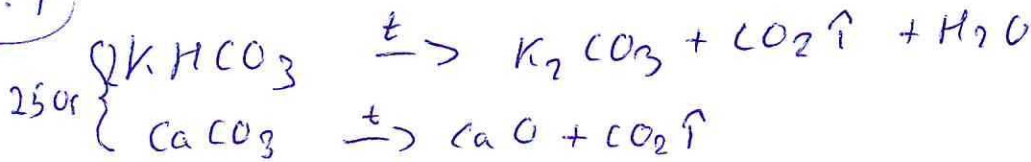


ответ: ~~44,5%~~ 44,5% - Cl₂

2.1



3.1



$M(\text{KНСО}_3) = m(\text{CaСО}_3)$

так как мол. массы у нас будут одинак. будем считать что M осадка которого больше - 100%, так мы наберем максимум.

считаем по K_2CO_3 (т.к. $M(\text{K}_2\text{CO}_3) > M(\text{CaO})$)

$M(\text{K}_2\text{CO}_3) = 48 + 12 + 78 = 138 \text{ г/моль}$

$\nu_{\text{KНСО}_3} = \frac{250}{100} = 2,5 \text{ моль}$

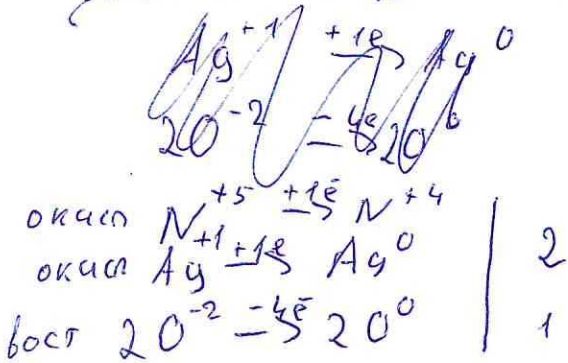
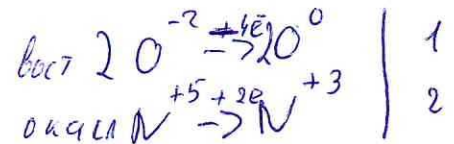
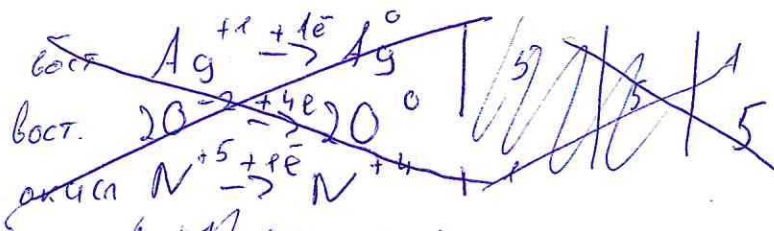
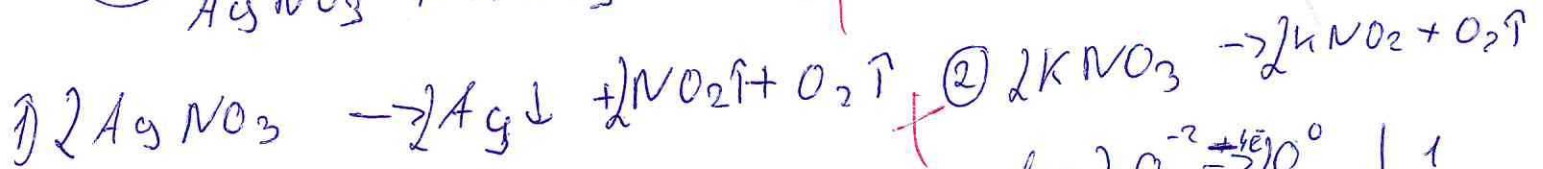
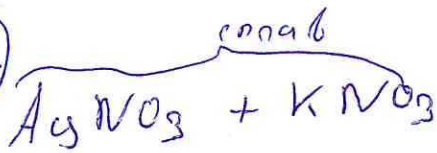
$\nu_{\text{K}_2\text{CO}_3} = \frac{1}{2} \nu_{\text{KНСО}_3} = 1,25 \text{ моль}$ ✓

$m(\text{K}_2\text{CO}_3) = 138 \cdot 1,25 = 172,5 \text{ г}$

ответ: $m_{\text{max осад}} = 172,5 \text{ г}$



5.1.



1) $\rho_{He} = \frac{M(P+P_0)}{M(He)}$

$M_{газа} = 4 \cdot 10 = 40 \text{ г/моль}$

2) пусть $V_{AgNO_3} = x$ $V_{KNO_3} = y$

$m_{AgNO_3} = 170x$

$m_{KNO_3} = 101y$

$\omega(AgNO_3) = \frac{170x}{170x + 101y}$

$m_{всего} = 170x + 101y$

3) $M_{газа} = \frac{m(NO_2) + m(O_2)_{всего}}{V(NO_2) + V(O_2)_{всего}}$

$m_{NO_2} = 46x$ $m(O_2)_1 = 16x$ $V(O_2)_1 = x$

$V_{NO_2} = x$ $m(O_2)_2 = 16y$ $V(O_2)_2 = y$

$\frac{46x + 16x + 16y}{x + \frac{1}{2}x + \frac{1}{2}y} = 40$

$2x - 4y = 0$

$x = 2y$

ответ: $\omega_{AgNO_3} = 0,77$

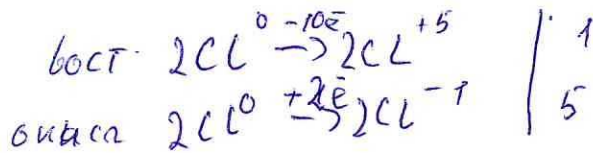
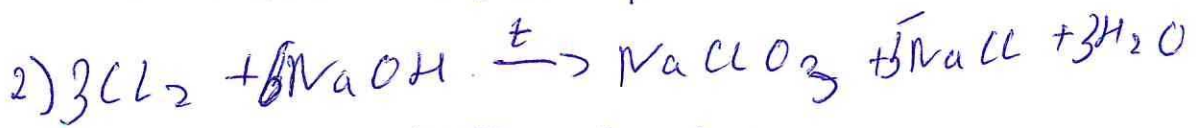
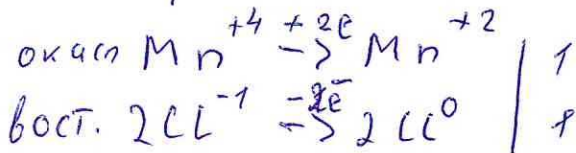
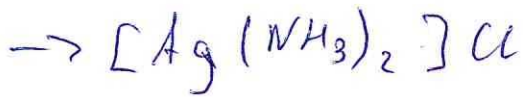


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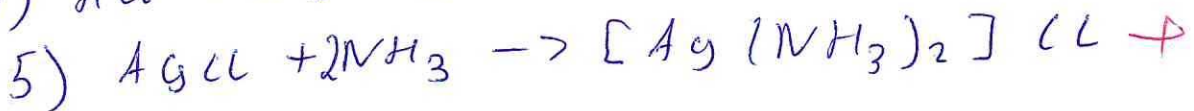
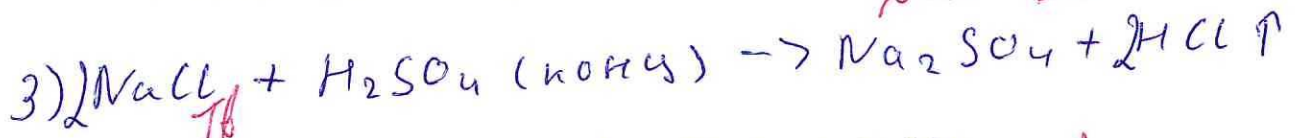
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ω_{AgNO_3}

4) $\frac{340y}{340y + 101y} = 0,77$

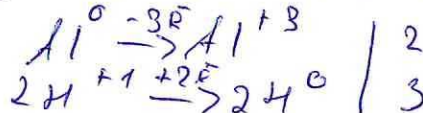
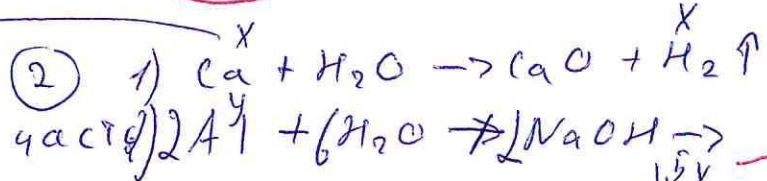
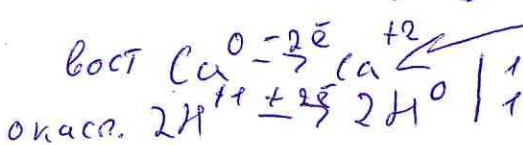
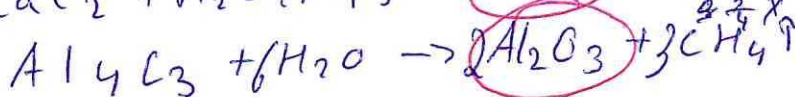
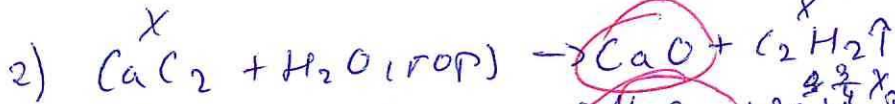
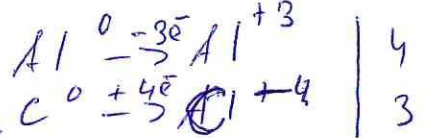
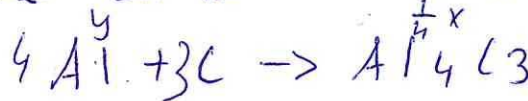
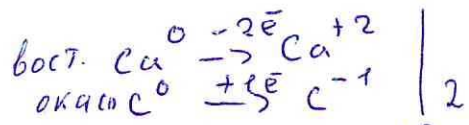
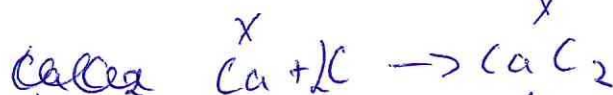


NaClSO₄



(7.1)

①
часть



1) $V = \gamma \cdot V_m$

2) пусть Ca всего $2x$
Al всего $2y$

3)
$$\begin{cases} 22,4x + 1,5y \cdot 22,4 = 8,96 \\ 22,4x + 16,8y = 5,6 \end{cases}$$

так как
равные
части
← система

$$\begin{cases} 22,4x + 33,6y = 8,96 \\ 22,4x + 16,8y = 5,6 \quad | \cdot (-1) \end{cases}$$

$16,8y + 3,36$

$y = 0,2 \text{ моль}$

$22,4x + 3,36 = 5,6$

$x = 0,1 \text{ моль}$

$m_{Ca} = (14) \cdot 2 \cdot M(Ca) = 0,2 \cdot 40 = 8$

$m_{Al} = V(Al) \cdot 2 \cdot M(Al) = 0,4 \cdot 27 = 10,8$

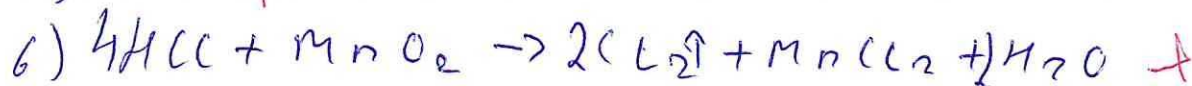
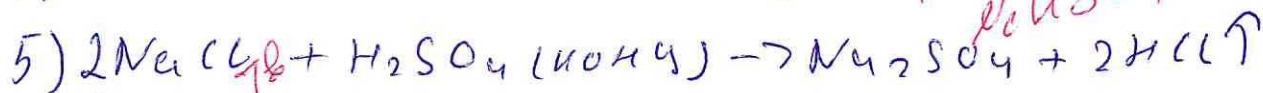
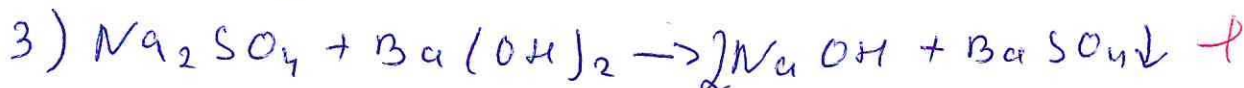
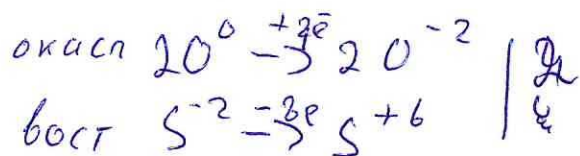
$m_{Ca} + m_{Al} = m_{\text{всего}}$

$m_{\text{всего}} = 18,8 \text{ г}$

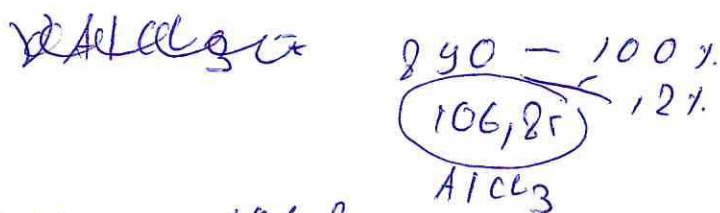
ответ: масса 18,8 г



9.1



8.1.



V AlCl₃ = $\frac{106,8}{133,5} = 0,8$

V NH₃ = (4x · 17) + 28x = 55,3

8x + 28x = 55,3

36x = 55,3

x = 0,6

V NH₃ = 3x = 1,8

m p-pa = 850 + 1,8 · 17 - 78 · 0,8

m p-pa = 873г



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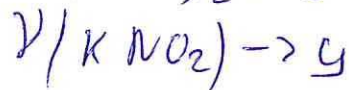
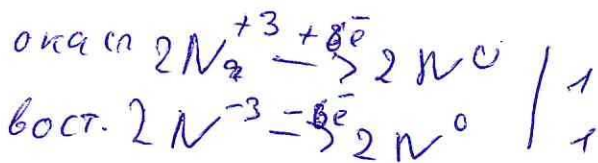
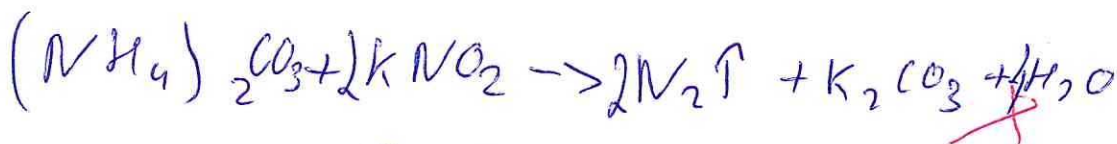
$$\omega(\text{NH}_4\text{Cl}) = \frac{1,2 \cdot 53,5}{873} = 0,075 \approx 0,11$$

$$\omega(\text{AlCl}_3) = \frac{0,2 \cdot 133,5}{873} = 0,03$$

ответ:

$\omega(\text{NH}_4\text{Cl}) = 0,11$
 $\omega(\text{AlCl}_3) = 0,03$

10.1



тогда $3x + \frac{2y}{x} = 8$

$$\frac{2y}{x} = 8 - 3x$$

$$2y = 8x - 3x^2$$

$$y = \frac{8x - 3x^2}{2}$$

