

Handwritten signature and circled number 458.

1	2	3	4	5	6	7	8	9	10
4	6	4	5	4	12	2	20	6	X

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Задание 1.2.

$$m(A) = 300 \cdot 0,84 = 252 \text{ г}$$

$$m(B) = 300 \cdot 0,16 = 48 \text{ г}$$

$$\omega_A(C) = \frac{12 \cdot 12}{12 \cdot 12 + 1 \cdot 4 + 35,5 \cdot 4 + 16 \cdot 2} = 0,4472$$

$$m_A(C) = 252 \cdot 0,4472 = 112,69565 \text{ г}$$

$$\omega_B(C) = \frac{12 \cdot 6}{12 \cdot 6 + 1 \cdot 2 + 35,5 \cdot 3 + 16 \cdot 23} = 0,32802$$

$$m_B(C) = 48 \cdot 0,32802 = 15,74496 \text{ г}$$

$$m_{\text{общ}}(C) = 112,69565 + 15,74496 = 128,44061 \text{ г}$$

$$\omega(C) = \frac{128,44061}{300} = 0,42814 \text{ или } 42,814\%$$

Ответ: 0,42814 или 42,814%

+ 40-

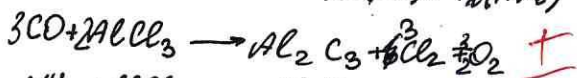
Задание 2.2.

$$M(NH_3) = 17 \text{ г/моль}$$

$$M(CO) = 28 \text{ г/моль}$$

$M(NH_3) < M(CO)$ т.к. у газов $\Delta V_{\text{единица массы}} = \text{меньшая доля}$, т.е.

$$\chi(CO) = 4\chi(NH_3)$$

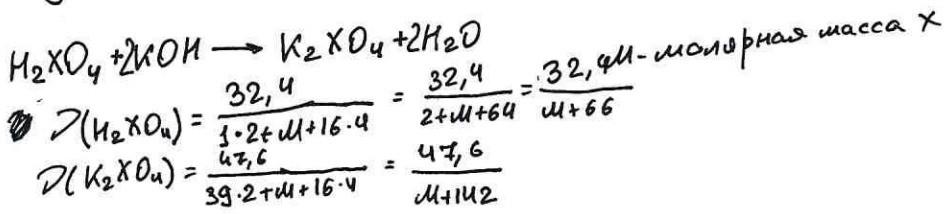


$$m_{\text{в-ва}}(AlCl_3) = 1068 \cdot 0,15 = 160,2 \text{ г}$$

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Задача 4.2.



$\rho(\text{H}_2\text{XO}_4) = \rho(\text{K}_2\text{XO}_4)$

$\frac{32,4}{M + 66} = \frac{47,6}{M + 142}$

$32,4M + 4600,8 = 47,6M + 3141,6$
 $-15,2M = -1459,2$

$M = 96 \text{ г/моль}$

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X — Mo

к-та — H_2MoO_4 (+6)

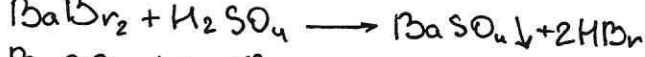


$\rho(\text{MoO}_2) = \frac{28,8}{96 + 16 \cdot 2} = 0,225 \text{ моль}$

$\rho(\text{MoO}_2) = \rho(\text{HI})$
 $\rho(\text{HI}) = 4 \rho(\text{MoO}_2) = 0,9 \text{ моль}$ (-)

$m(\text{HI}) = 0,9 \cdot (127 + 1) = 115,2 \text{ г}$

Задача 6.2



07

A	B	C	D	E
H_2S	SO_2	BaSO_3	BaBr_2	BaSO_4

D — BaBr_2
 E — BaSO_4

120

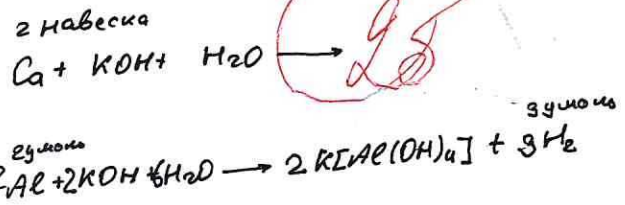
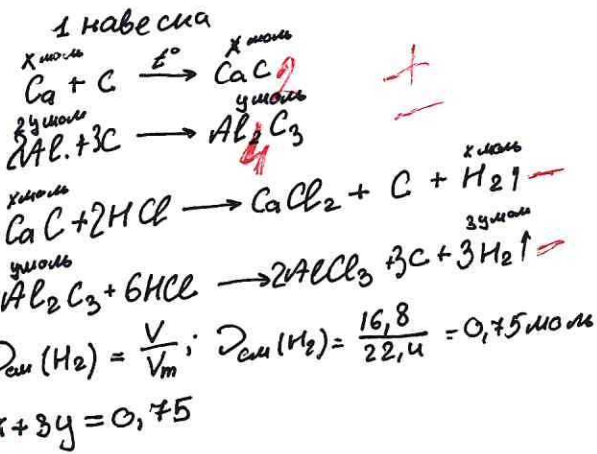


**СЕЧЕНОВСКИЙ
УНИВЕРСИТЕТ**

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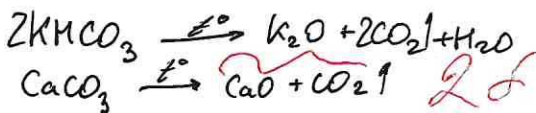
Задание 7.2.

x и y - моль Ca и Al соответственно



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Задание 3.2.



Т.к. молярные массы KHSO_3 и CaCO_3 одинаковые (100 г/моль), то

масса $\text{KHSO}_3 : \text{CaCO}_3$ в смеси = 2 : 1

$m(\text{KHSO}_3) = \frac{250}{3} \approx 83,33 \text{ г}$

$m(\text{CaCO}_3) = \frac{250}{3} \approx 83,33 \text{ г}$

$\nu(\text{K}_2\text{O}) = \frac{\nu(\text{KHSO}_3)}{2} = \frac{0,83335 \text{ моль}}{2} = 0,416675 \text{ моль}$

$m(\text{K}_2\text{O}) = \nu(\text{K}_2\text{O}) \cdot M(\text{K}_2\text{O}) = 0,416675 \cdot 78 = 32,5 \text{ г}$

$\nu(\text{CaO}) = \nu(\text{CaCO}_3) = \frac{83,33}{100} = 0,8333; m(\text{CaO}) = 0,8333 \cdot 56 = 46,6648 \text{ г}$

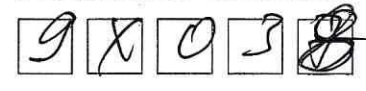
$m_{\text{т.веса}} = m(\text{CaO}) + m(\text{K}_2\text{O}) = 78,349 + 46,6648 = 125,0138 \text{ г}$

2

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СЕЧЕНОВСКИЙ
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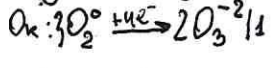
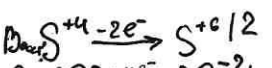
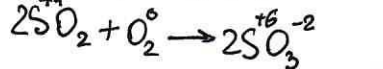
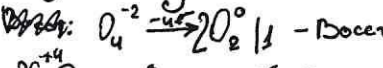
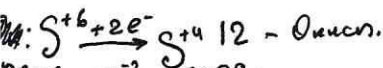


Задание 9.2.

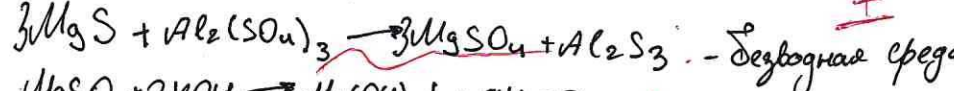
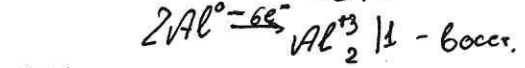
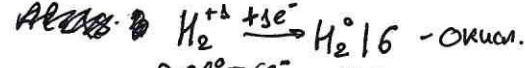
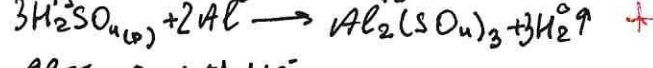
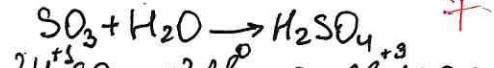
$$M_{\text{аниона}} = 32 + 16 \cdot 4 = 96 \text{ г/моль}$$

$$M_{\text{катиона}} = 96 \cdot 1,427 = 136,992 \text{ г/моль}$$

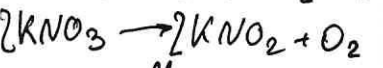
Met - Ba



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Задача 5.2.



$$D(\text{H}_2) = \frac{M_{\text{см}}}{M(\text{H}_2)} = 19,5$$

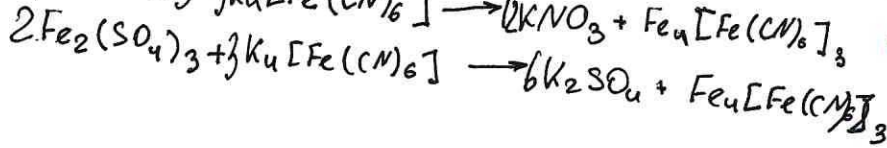
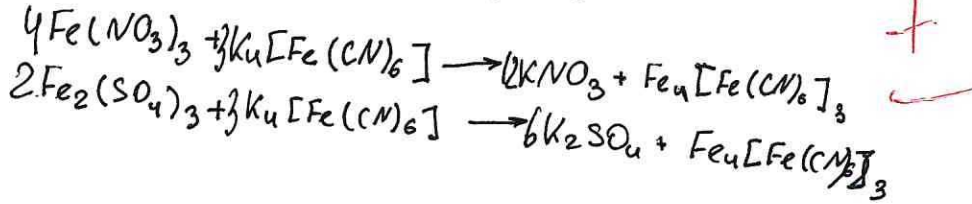
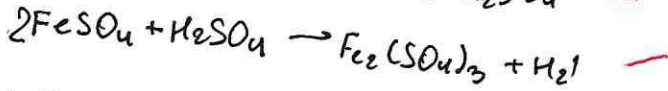
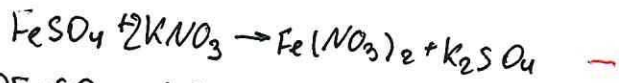
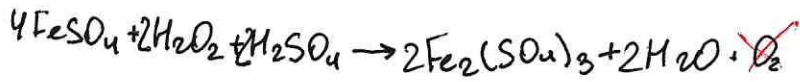
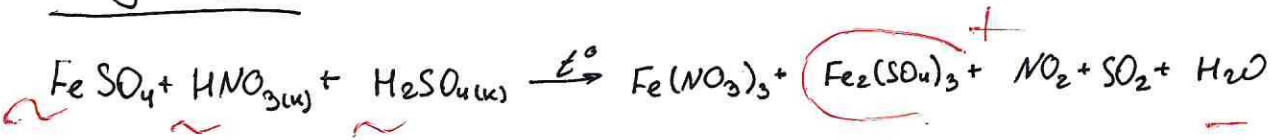
$$M_{\text{см}} = 39 \text{ г/моль}$$

20. 48.
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Задача 2.2.



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