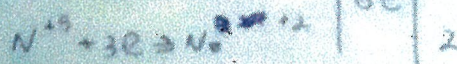




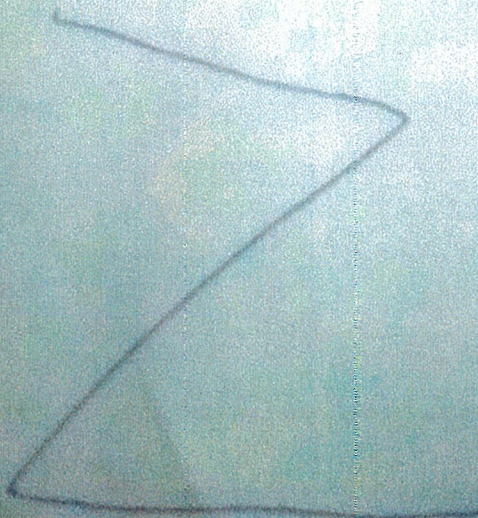
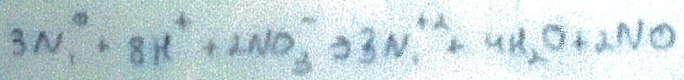
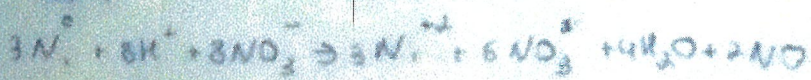
ВАРИАНТ № 4

Оценка выполнения олимпиадной работы (заполняется проверяющим)												
Первое проверка	№ задания	1	2	3	4	5	6	7	8	9	10	Σ
	Полученный балл	5	8	3	10	20	8					54
	Σ баллов прописью	пятьдесят четыре						Подпись проверяющего		[Signature]		
Второе проверка	№ задания	1	2	3	4	5	6	7	8	9	10	Σ
	Полученный балл	5	8	3	10	20	8					54
	Σ баллов прописью	пятьдесят четыре сорок шесть						Подпись проверяющего		[Signature]		46

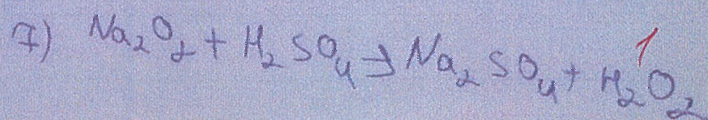
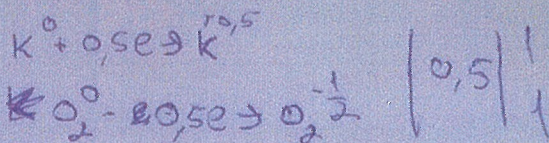
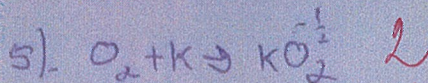
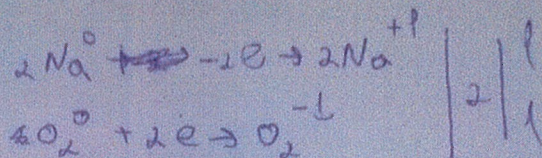
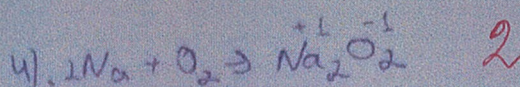
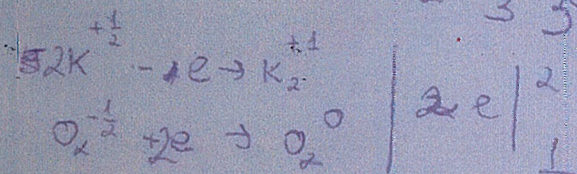
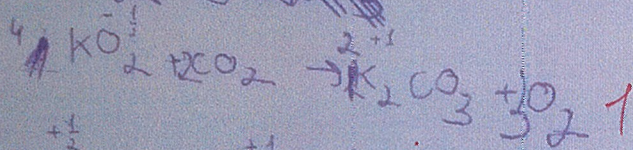
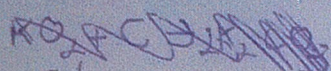
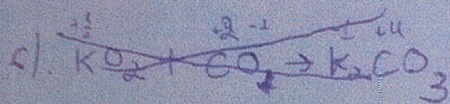
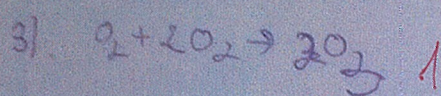
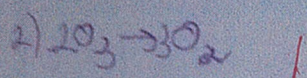
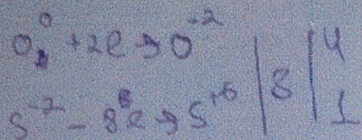
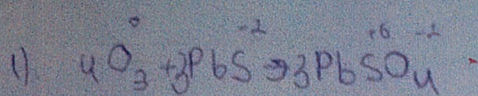
N1.



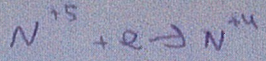
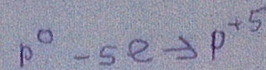
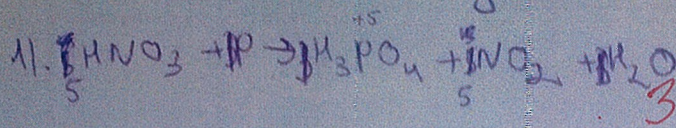
Итого



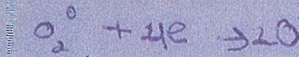
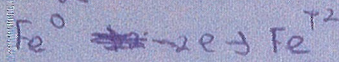
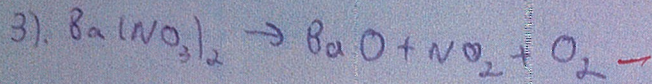
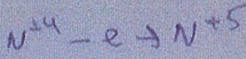
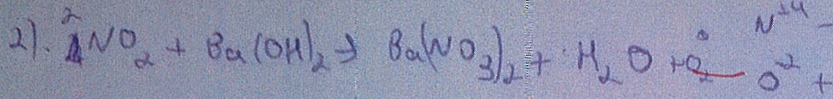
N2.



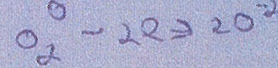
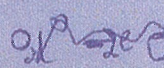
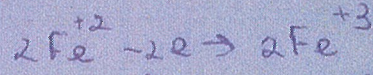
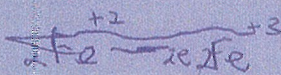
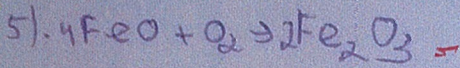
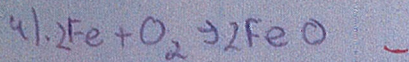
Задача №3



$$\begin{array}{r|l} & 1 \\ 5 & 5 \end{array}$$



$$\begin{array}{r|l} & 2 \\ 4 & 2 \end{array}$$



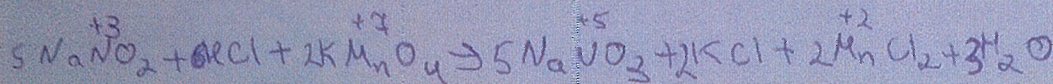
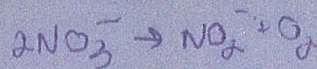
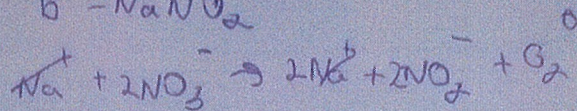
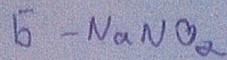
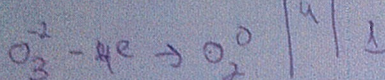
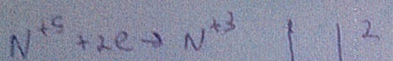
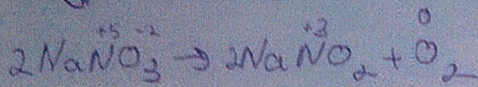
$$\begin{array}{r|l} & 1 \\ 2 & 1 \end{array}$$

3

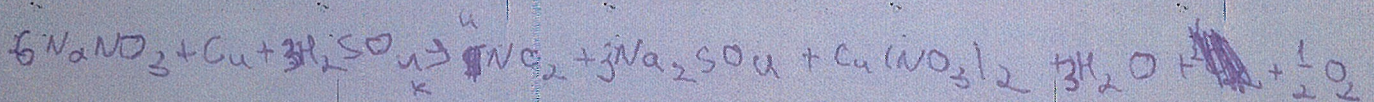
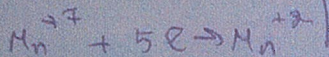
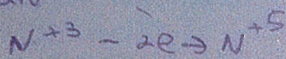
Nu.

т.к. кандалов, что соль щелочного МВ окрашивает пламя
в желтый цвет, но это соль Na

бурый газ скорее всего $\text{NO}_2 \Rightarrow$ исконая соль - NaNO_3



~~NaNO~~



$$25 \text{ л} = 25000 \text{ мл}$$

$$m = \rho \cdot V \Rightarrow m_{\text{р-ра}} = 25000 \cdot 1,1 = 27500 \text{ г}$$

~~NaNO~~

$$m_{\text{NaNO}_3} = m_{\text{р-ра}} \cdot \omega_{\text{NaNO}_3} = 27500 \text{ г}$$

$$\omega_{\text{NaNO}_3} = \frac{m}{M} = 33,1\%$$

$$\Rightarrow \nu(\text{Cu}) = \frac{33,1}{6} \cdot 5,52 \text{ моль} \Rightarrow m(\text{Cu}) = \nu \cdot M = 353,3 \text{ г}$$

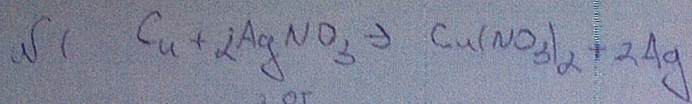
$$\nu(\text{NO}_2) = \frac{2}{3} \nu(\text{NaNO}_3) = 22,4 \text{ моль}$$

$$\nu = \frac{V}{V_m} \Rightarrow V = 22,4 \cdot 22,4 = 499,8 \text{ л} \approx 495 \text{ л}$$

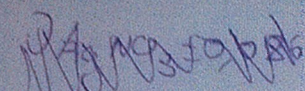
$$\eta = 0,027 = 2,7\%$$

Вариант № 4

N5



2 от



$$\Rightarrow \nu \text{AgNO}_3 = \frac{m_{\text{г-ра. ш}}}{M_{\text{AgNO}_3}} = \frac{20}{108+14+48} = 0,1176$$

Пусть x в реакцию вступило x моль меди

тогда AgNO_3 вступило $2x$ моль
образовалось $2x$ моль Ag

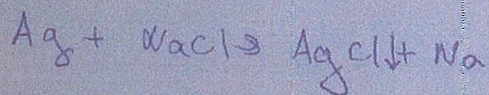
$$216x - 64x = 2,17$$

$$152x = 2,17$$

$$x = 0,0138 \Rightarrow \text{масса меди} = 0,8832 \text{ г и } m_{\text{Ag}} = 2,9808$$

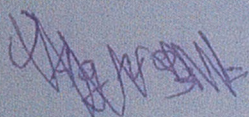
$\Rightarrow \text{AgNO}_3$ вступило в р-ию $0,0276$

осталось $0,1176 - 0,0276 = 0,09$ моль AgNO_3



$$m_{\text{NaCl}} = 300 \cdot 0,25 = 75$$

$$\nu(\text{NaCl}) = \frac{75}{23+35,5} = 1,327 \text{ моль}$$

20
=

$$\nu \text{Ag} = 0,0138 \cdot 2 = 0,0276$$

$\Rightarrow \text{Ag}$ в недостатке $\Rightarrow$

$$\nu(\text{AgCl}) = 0,0276 \Rightarrow m_{\text{AgCl}} = 3,9606$$

$$\Rightarrow \nu \text{NaCl} \text{ окт } 1,3 \text{ моль}$$

$$\Rightarrow m_{\text{р-ра}} = 200 + 300 - 3,9605 = 496,0395 \text{ г}$$

$$\Rightarrow \omega(\text{NaCl}) = \frac{\nu \cdot M}{m_{\text{р-ра}}} = \frac{0,148}{496,0395} = 0,148\% = 14,8\%$$

$$\omega(\text{Ag}) = 0,31\%$$

№6

$w(O)$ в оксиде железа $= 22\%$, Fe_xO_y - формула оксида

$$\frac{16y}{16y + 56x} = 0,22 \Rightarrow 3,52y + 12,32x = 16y$$

$$12,32x = 12,48y$$

$$x = y \Rightarrow FeO$$

11. N_1 содержится в сост. сульфата $w(N_1) = 32,9\%$

$$w(Cu) = 100 - 34,88 - 30,52 = 34,6\%$$

$\Rightarrow$ ~~состав~~

$$m(Fe)_{в-в Fe} = 100 \cdot 6,43\% \cdot \frac{0,3128}{100} = 2,01 \text{ т Fe}$$

$$m(Fe)_{в-в Cu} = \frac{100 \cdot 4,43 \cdot 0,3052}{100} = 1,35 \text{ т Fe}$$

$$m(Fe) = 100 \cdot 0,2188 = 21,88 \text{ т}$$

$$m_{обш} Fe = 21,88 + 1,35 + 2,3 = 25,53 \text{ т Fe}$$

$$m_{уг} S = 100 \cdot 0,25 \cdot 0,3 = 7,5 \text{ т}$$

$$m S_{в N_1} = 6,43 - 0,3575 = 2,3 \text{ т S}$$

$$m S_{в Cu} = 4,43 - 0,3483 = 1,545 \text{ т S}$$

$$m_{обш} S = 2,3 + 1,545 = 3,845 \text{ т}$$

$$m_{обш} S = 25 \text{ т} \Rightarrow S_{ост} 25 - 3,845 = 17,5 \text{ т}$$

$$m_{ост} после обж = 100 - 44 = 56 \text{ т}$$

$$\Rightarrow w(N_1) = 0,0349 = 3,49\% \quad w(Fe) = 0,326 = 32,6\%$$

$$w(Cu) = 0,024 = 2,4\%$$

$$w(S) = 0,3125 = 31,25\%$$

распределение
включено
в формулу