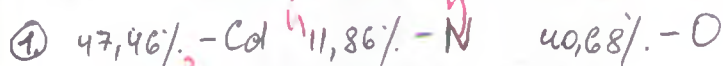


ШИФР 27032

Класс 9 Вариант 2 Дата Олимпиады 24.02.18

Площадка написания КНИТУ

| Задача | 1 | 2 | 3 | 4 | 5 | 6 | $\Sigma$ |                                  | Подпись                                                                             |
|--------|---|---|---|---|---|---|----------|----------------------------------|-------------------------------------------------------------------------------------|
|        |   |   |   |   |   |   | Цифрой   | Прописью                         |                                                                                     |
| Оценка | 4 | 5 | 4 | 5 | 5 | 4 | 27<br>29 | двадцать семь<br>двадцать девять |  |



$$\frac{112}{47,46} = \frac{x}{100}$$

$$47,46x = 11200$$

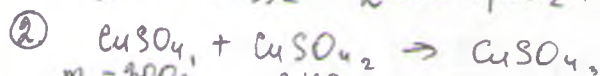
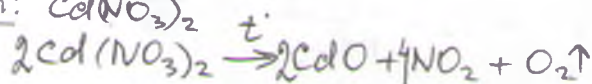
$$x = 236$$

Если 236 грамм — молярная масса этого соединения, то

$$(14 + 48) \times 2 + 112 = 236 \quad (\text{Cd}(\text{NO}_3)_2)$$

$$236 = 236$$

Ответ:  $\text{Cd}(\text{NO}_3)_2$



$$m_1 = 160, m_2 = 340, W_1 = 10\%, W_2 = 16\%, W_3 = 9\%$$

$$m(\text{CuSO}_4)_1 = \frac{160 \times 10}{100} = 16$$

$$m(\text{CuSO}_4)_2 = \frac{340 \times 16}{100} = 54,4$$

$$W(\text{CuSO}_4)_3 = \frac{54,4 + 16}{160 + 340} = 0,1377 \quad (13,78\%)$$

Ответ: 13,78%

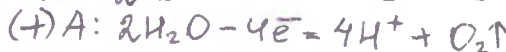
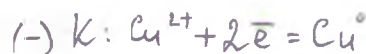


$$V(\text{O}_2) = 2,25 \text{ л}$$

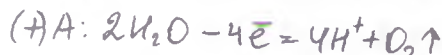
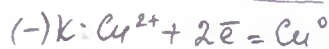
$$x \cdot V(\text{O}_2) = \frac{2,25}{22,4} = 0,1 \text{ моль}$$

$$V(\text{O}_2) = V(\text{Cu})$$

$$m(\text{Cu}) = 0,1 \times 64 = 6,4 \text{ г}$$



Ответ: процесс протекающий на катоде и на аноде:



Уравнение реакции электролиза:



$$m(\text{Cu}) = 6,4 \text{ г}$$

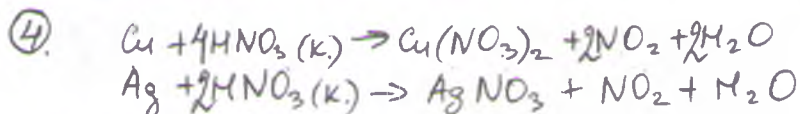
$$(a \cdot b) \cdot c = a \cdot (b \cdot c)$$

$$E = mc^2$$

$$F = \frac{q_1 \cdot q_2}{r^2}$$

ШИФР

27032



$$m(\text{Cu} + \text{Ag}) = 2,82$$

$$m(\text{Cu}(\text{NO}_3)_2 + \text{AgNO}_3) = 5,282$$

$$m(\text{Cu}) = x$$

$$m(\text{Ag}) = 2,8 - x$$

$$V(\text{Cu}) = \frac{x}{64}$$

$$V(\text{Ag}) = \frac{2,8 - x}{108}$$

$$V(\text{Cu}) = V(\text{Cu}(\text{NO}_3)_2); \quad V(\text{Ag}) = V(\text{AgNO}_3)$$

$$m_{\text{обс.}} = V(\text{Cu}(\text{NO}_3)_2) \cdot M(\text{Cu}(\text{NO}_3)_2) + V(\text{AgNO}_3) \cdot M(\text{AgNO}_3)$$

$$\frac{x}{64} \times 188 + \frac{2,8 - x}{108} \times 170 = 5,28$$

$$\frac{x}{16} \times 47 + \frac{\frac{14}{5} - x}{108} \times 170 = 5,28$$

$$\frac{47x}{16} + \frac{\frac{14}{5} - x}{54} \times 85 = \frac{132}{25}$$

$$\frac{47x}{16} + \frac{14 - 5x}{270} \times 85 = \frac{132}{25}$$

$$\frac{47x}{16} + \frac{17(14 - 5x)}{54} = \frac{132}{25}$$

$$\frac{47x}{16} + \frac{238 - 85x}{54} = \frac{132}{25}$$

$$\frac{2538x + 3808 - 1360x}{864} = \frac{132}{25}$$

$$25(2538x + 3808 - 1360x) = 114048$$

$$29450x + 95200 = 114048$$

$$29450x = 18848$$

$$x = 0,64$$

$$m(\text{Cu}) = 0,642$$

$$m(\text{Ag}) = 2,8 - 0,64 = 2,162$$

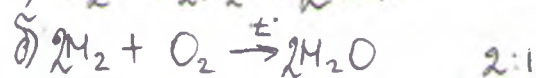
$$W(\text{Cu}) = \frac{0,64}{2,8} \cdot 100 = 22,9\%$$

Ответ:  $W(\text{Cu}) = 22,9\%$

$$W(\text{Ag}) = \frac{2,16}{2,8} \cdot 100 = 77,1\%$$

$$W(\text{Ag}) = 77,1\%$$

⑤



⑥

