

№1. Дано:

$$m(\text{MeX}) = 272$$

$$m(\text{исход. смеси}) = \text{уменьш. на } 132$$

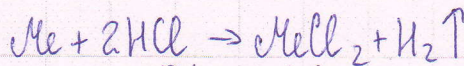
$$m(\text{смеси}) = \text{увелич. на } 19,202$$

$$(\text{H}) = 4,81 \text{ г}$$

$$\rho = 1,185 \text{ г/мл}$$

$$V(p-pa) = 266 \text{ мл}$$

Решение:



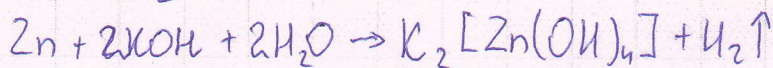
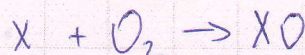
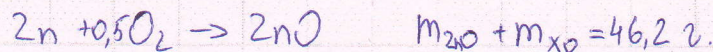
$$n(\text{H}_2) = \frac{PV}{RT} = \frac{1 \cdot 4,81}{0,082 \cdot 293} = 0,2 \text{ моль}$$

$$n(\text{H}_2) = n(\text{Me}) = 0,2 \text{ моль}$$

$$M_r = \frac{m}{n} = \frac{132}{0,2 \text{ моль}} = 652 \text{ г/моль}$$

Zn

$$27 + 19,2 = 46,2$$



$$V(\text{KOH}) = \frac{n \cdot M_r}{w \cdot \rho} = \frac{(1 + 0,4) \cdot 56}{0,25 \cdot 1,185} = 264,64 \text{ мл}$$

Ответ: 264,64 мл.

№2. X - C<sub>x</sub>H<sub>y</sub>

$$\rho(X) = 3,13 \text{ г/мл}$$

$$M(X) = \rho(X) \cdot V$$

$$M(X) = 3,13 \cdot 22,4 = 70$$

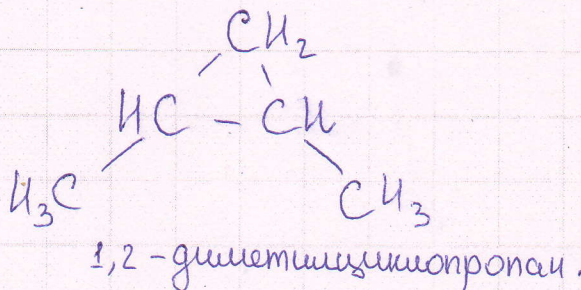
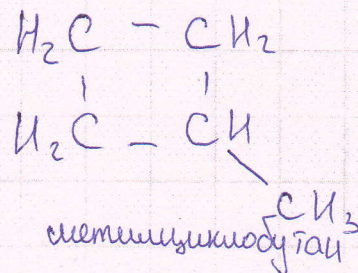
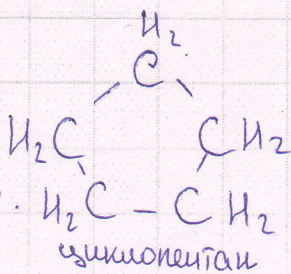
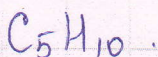
$$\text{C}_n \text{H}_{2n} = 70$$

$$12n + 2n = 70$$

$$14n = 70$$

$$n = \frac{70}{14}$$

$$n = 5$$



№3. Дано:

$$m(\text{A}) = 0,2912$$

$$V(p-pa) = 50 \text{ мл}$$

$$c = 0,1 \text{ M.}$$

$$V(p-pa_2) = 100 \text{ мл}$$

$$m(\text{осадка}) = 0,6322$$

Решение:

$$c = \frac{n}{V} \quad n = V \cdot c = 0,05 \cdot 0,1 = 0,005 \text{ моль.}$$

$$M(\text{HCl}) = 36,5$$

$$m = 36,5 \cdot 0,005 = 0,1825 \text{ г.}$$

$$m_{2p-pa} = 50 \text{ мл} + 50 \text{ мл} = 100 \text{ мл.}$$

