

Zad. 10

a)  $90,5 \text{ cm}^3$   $C_p = 16\%$

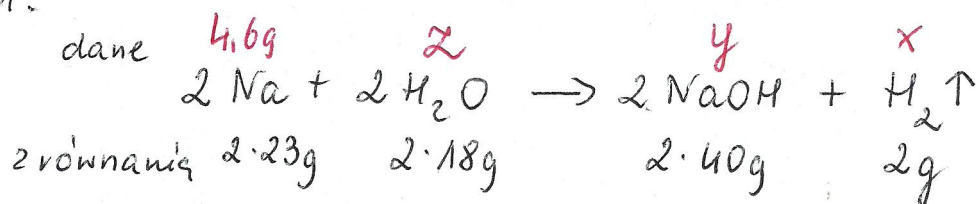
b)  $m_v = 100 \text{ g}$   
 $V = 90,5 \text{ cm}^3$   $d = \frac{m_v}{V}$   $d = \frac{100 \text{ g}}{90,5 \text{ cm}^3} = \underline{1,105 \text{ g/cm}^3}$   
( $1105 \text{ g/dm}^3$ )

$$M_{\text{H}_2\text{SO}_4} = 2 + 32 + 4 \cdot 16 = 98 \text{ g/mol}$$

$$C_{\text{mol}} = \frac{C_p \cdot d}{100\% \cdot M}$$

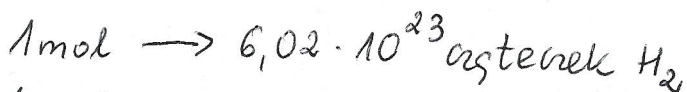
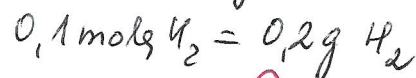
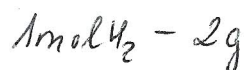
$$C_{\text{mol}} = \frac{16\% \cdot 1105 \text{ g/dm}^3}{100\% \cdot 98 \text{ g/mol}} = \underline{1,8 \text{ mol/dm}^3}$$

Zad. 11.



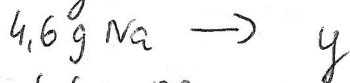
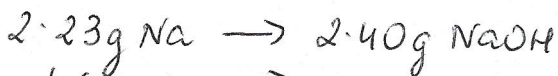
a) linba moli sodu:

$$n = 4,6 \text{ g} : 23 \text{ g/mol} = 0,2 \text{ mola Na}$$



$$x = 0,1 \cdot 6,02 \cdot 10^{23} = \underline{6,02 \cdot 10^{22}} \text{ cząstek H}_2$$

b)



$$y = \frac{4,6 \text{ g} \cdot 80 \text{ g}}{46 \text{ g}} = 8 \text{ g NaOH (m}_s)$$

$C_p \text{ NaOH} = 20\%$

$$C_p = \frac{m_s}{m_v} \cdot 100\%$$

$$m_v = \frac{m_s}{C_p} \cdot 100\% = \frac{8 \text{ g}}{20\%} \cdot 100\% = 40 \text{ g}$$

masa wody w roztworze  $m_{\text{H}_2\text{O}} = m_v - m_s = 40 \text{ g} - 8 \text{ g} = 32 \text{ g}$

masa wody, która przereagowała:

$$z = \frac{4,6 \text{ g} \cdot 2 \cdot 18 \text{ g}}{2 \cdot 23 \text{ g}} = 3,6 \text{ g H}_2\text{O}$$

Masa wody przed reakcją  $32 \text{ g} + 3,6 \text{ g} = \underline{35,6 \text{ H}_2\text{O}}$