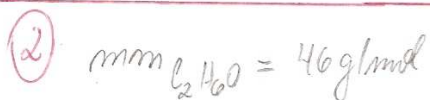
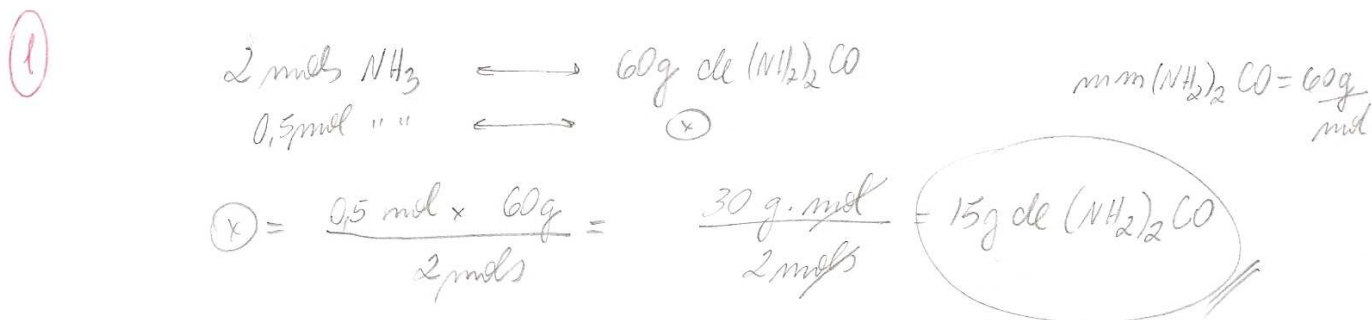
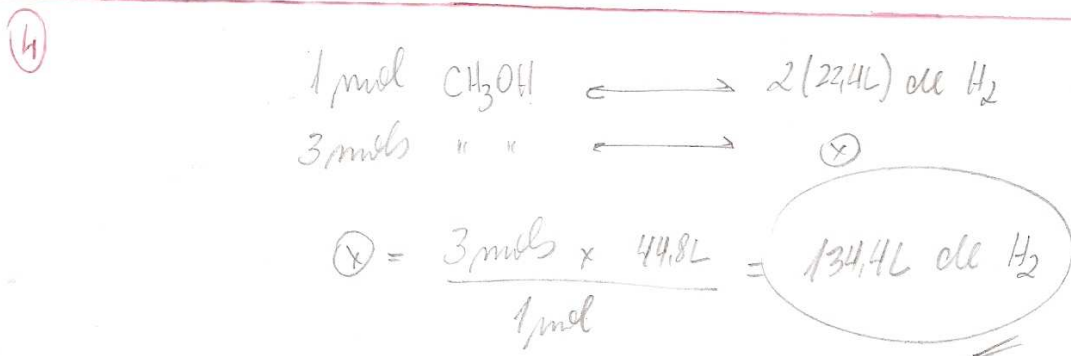
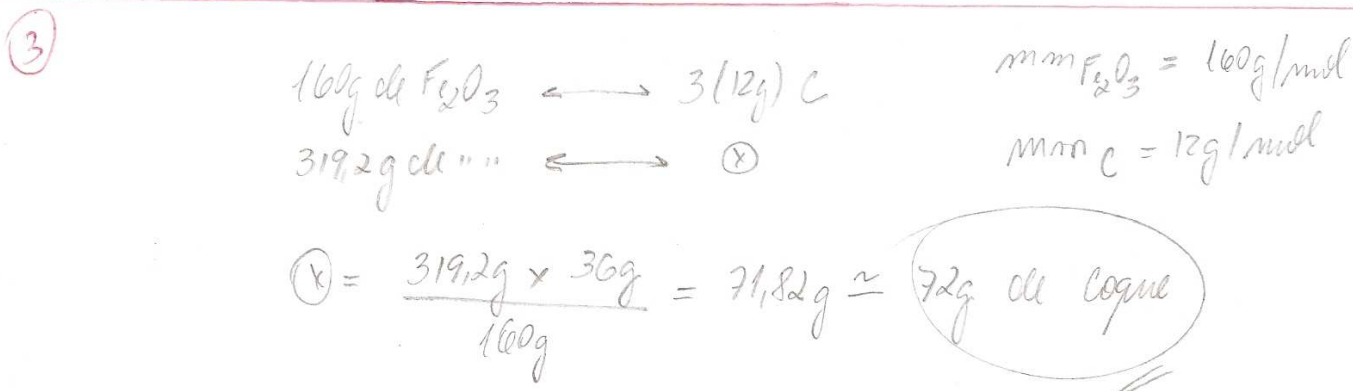


Resoluções das Questões do QUIZ sobre Estequiometria



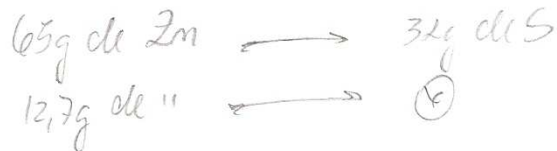
$$\textcircled{x} = \frac{18,4 \text{ g} \times 54 \text{ g}}{46 \text{ g}} = 21,6 \text{ g de } \text{H}_2\text{O}$$



5



1ª Abordagem: Calcular a massa de S necessária para reagir com 12,7g de Zn:

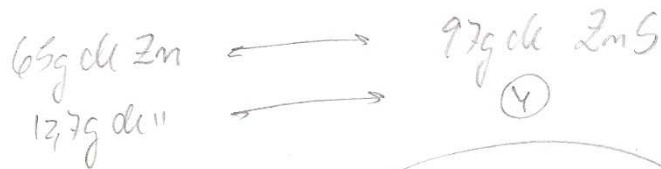


$\textcircled{X} \approx 6,25\text{g} < 20\text{g}$ de S disponíveis, logo:

Zn = reagente limitante

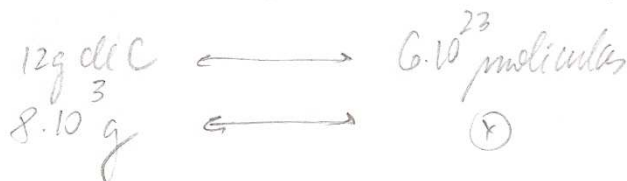
S = reagente em excesso

2ª Abordagem: A partir do reagente limitante, calcular-se a massa de ZnS formada:



$$\textcircled{Y} = \frac{12,7\text{g} \times 97\text{g}}{65\text{g}} \approx 18,95\text{g de ZnS}$$

6



$$M_{\text{mC}} = 12\text{g/mol}$$

$$\textcircled{X} = \frac{8 \cdot 10^3 \text{ g} \times 6 \cdot 10^{23} \text{ moléculas}}{12\text{g}}$$

$$\textcircled{X} = 4 \cdot 10^{26} \text{ moléculas de CO}_2$$

$$10\text{kg} \longrightarrow 100\%$$

$$\textcircled{Y} \longrightarrow 80\%$$

$$\textcircled{Y} = 8\text{kg} = 8 \cdot 10^3 \text{ g}$$

7

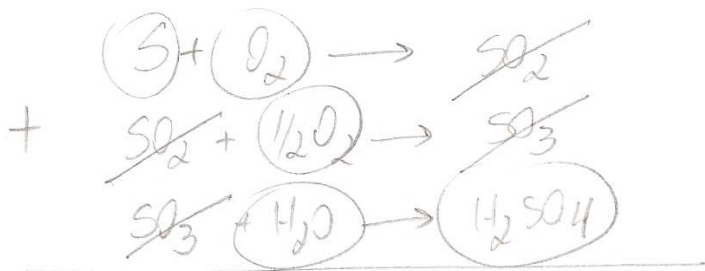
$$128 \text{ kg} \longleftrightarrow 100\%$$

$$\textcircled{x} \longleftrightarrow 2,5\%$$

$$\textcircled{x} = 0,32 \text{ kg ou } 320 \text{ g de S no carvão.}$$

$$m_{mS} = 32 \text{ g/mol}$$

$$m_{mH_2SO_4} = 98 \text{ g/mol}$$



$$32 \text{ g de S} \longleftrightarrow 98 \text{ g de } H_2SO_4$$

$$320 \text{ g de S} \longrightarrow \textcircled{x}$$

$$\textcircled{x} = \frac{98 \text{ g} \times 320 \text{ g}}{32 \text{ g}} = 980 \text{ g} \times \frac{1 \text{ kg}}{1000 \text{ g}} = \textcircled{0,98 \text{ kg de } H_2SO_4}$$

8



1ª Abordagem: Considere-se um rendimento de 100%:

$$m_{mNH_3} = 17 \text{ g/mol}$$

$$m_{mCO(NH_2)_2} = 60 \text{ g/mol}$$

$$34 \text{ g de } NH_3 \longleftrightarrow 60 \text{ g de } CO(NH_2)_2$$

$$340 \cdot 10^6 \text{ g " " } \longleftrightarrow \textcircled{x}$$

$$\textcircled{x} = \frac{340 \cdot 10^6 \text{ g} \times 60 \text{ g}}{34 \text{ g}} = 600 \cdot 10^6 \text{ g} \times \frac{1 \text{ t}}{10^6 \text{ g}} = \textcircled{600 \text{ t}}$$

2ª Abordagem: Comparar o resultado de 100% obtido com a informação na questão:

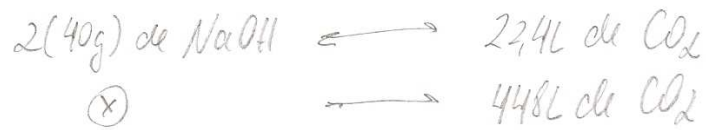
$$600 \text{ t de } CO(NH_2)_2 \longleftrightarrow 100\% \text{ de rendimento}$$

$$540 \text{ t " " } \longleftrightarrow \textcircled{y}$$

$$\textcircled{x} = \frac{100\% \times 540 \text{ t}}{600 \text{ t}} = \textcircled{90\% \text{ de rendimento}}$$

9

mm NaOH = 40g/mol

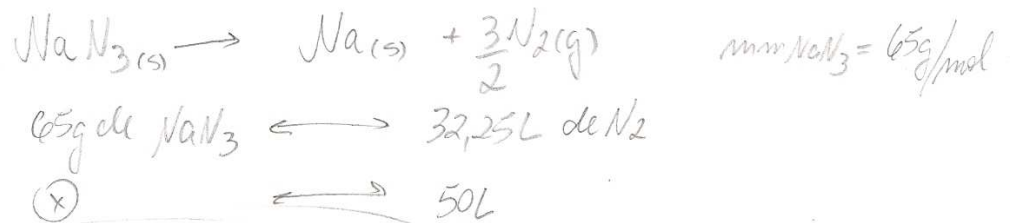


$$\textcircled{x} = \frac{80g \times 448L}{22,4L} = 1600g \times \frac{1Kg}{10^3g} = \textcircled{1,6Kg}$$

10) Condições: 27°C e 1,14 atm. Considere-se um gás ideal, tem-se:

$$P \cdot V = n \cdot R \cdot T \rightarrow 1,14 \text{ atm} \cdot V = 1 \text{ mol} \cdot \frac{0,082 \text{ atm} \cdot L}{\text{mol} \cdot K} \cdot 300K$$

$V \approx 21,5L \leftarrow$ volume molar para as condições da questão.



$$\textcircled{x} \approx 100,77g \text{ de NaN}_3$$