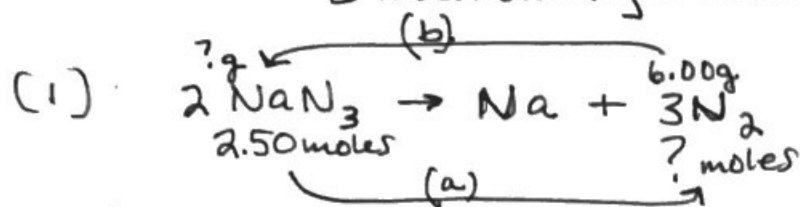
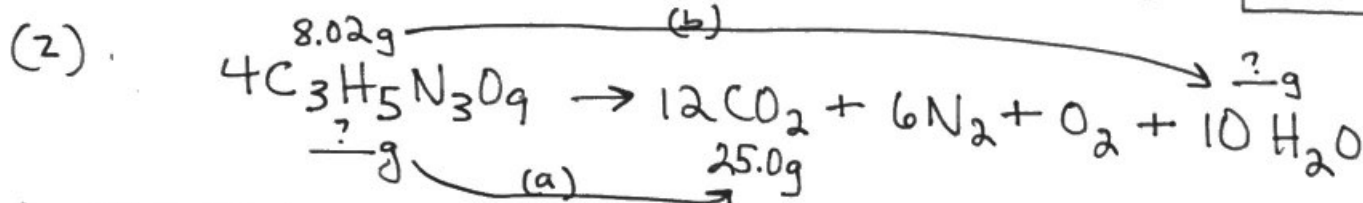


Stoichiometry Problems 2 (1-4)



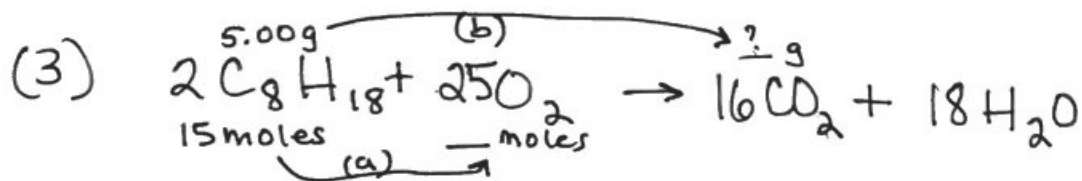
a) $\frac{2.50 \text{ mol NaN}_3}{1} \times \frac{3 \text{ mol N}_2}{2 \text{ mol NaN}_3} = \boxed{3.75 \text{ mol N}_2}$

b) $\frac{6.00 \text{ g N}_2}{1} \times \frac{1 \text{ mol N}_2}{28.02 \text{ g N}_2} \times \frac{2 \text{ mol NaN}_3}{3 \text{ mol N}_2} \times \frac{65.02 \text{ g NaN}_3}{1 \text{ mol NaN}_3} = \boxed{9.28 \text{ g NaN}_3}$



a) $\frac{25.0 \text{ g CO}_2}{1} \times \frac{1 \text{ mole CO}_2}{44.01 \text{ g CO}_2} \times \frac{4 \text{ mol C}_3\text{H}_5\text{N}_3\text{O}_9}{12 \text{ mol CO}_2} \times \frac{227.11 \text{ g C}_3\text{H}_5\text{N}_3\text{O}_9}{1 \text{ mol C}_3\text{H}_5\text{N}_3\text{O}_9} = \boxed{43.0 \text{ g C}_3\text{H}_5\text{N}_3\text{O}_9}$

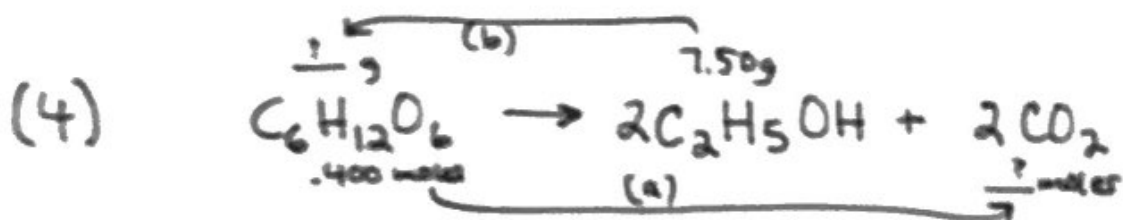
b) $\frac{8.02 \text{ g C}_3\text{H}_5\text{N}_3\text{O}_9}{1} \times \frac{1 \text{ mol C}_3\text{H}_5\text{N}_3\text{O}_9}{227.11 \text{ g C}_3\text{H}_5\text{N}_3\text{O}_9} \times \frac{10 \text{ mol H}_2\text{O}}{4 \text{ mol C}_3\text{H}_5\text{N}_3\text{O}_9} \times \frac{18.02 \text{ g H}_2\text{O}}{1 \text{ mol H}_2\text{O}} = \boxed{1.59 \text{ g H}_2\text{O}}$



(a) $\frac{15 \text{ mol C}_8\text{H}_{18}}{1} \times \frac{25 \text{ mol O}_2}{2 \text{ moles C}_8\text{H}_{18}} = 187.5$

$\boxed{190 \text{ mol O}_2}$

(b) $\frac{5.00 \text{ g C}_8\text{H}_{18}}{1} \times \frac{1 \text{ mol C}_8\text{H}_{18}}{114.26 \text{ g C}_8\text{H}_{18}} \times \frac{16 \text{ mol CO}_2}{2 \text{ mol C}_8\text{H}_{18}} \times \frac{44.01 \text{ g CO}_2}{1 \text{ mole CO}_2} = \boxed{15.4 \text{ g CO}_2}$



(a)

$$\frac{.400 \text{ moles C}_6\text{H}_{12}\text{O}_6}{1} \times \frac{2 \text{ mole CO}_2}{1 \text{ mole C}_6\text{H}_{12}\text{O}_6} = .800 \text{ mol CO}_2$$

(b)

$$\frac{7.50 \text{ g C}_2\text{H}_5\text{OH}}{1} \times \frac{1 \text{ mol C}_2\text{H}_5\text{OH}}{46.08 \text{ g C}_2\text{H}_5\text{OH}} \times \frac{1 \text{ mole C}_6\text{H}_{12}\text{O}_6}{2 \text{ mol C}_2\text{H}_5\text{OH}} \times \frac{180.18 \text{ g C}_6\text{H}_{12}\text{O}_6}{1 \text{ mole C}_6\text{H}_{12}\text{O}_6} = 14.7 \text{ g C}_6\text{H}_{12}\text{O}_6$$