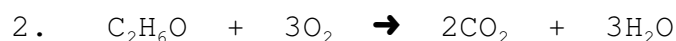


$$a) \quad 2.46 \text{ g H}_2\text{O} \times \frac{1 \text{ mol H}_2\text{O}}{18.02 \text{ g H}_2\text{O}} = 0.137 \text{ mol H}_2\text{O}$$

$$b) \quad 2.46 \text{ g H}_2\text{O} \times \frac{1 \text{ mol H}_2\text{O}}{18.02 \text{ g H}_2\text{O}} \times \frac{2 \text{ mol C}_4\text{H}_{10}}{10 \text{ mol H}_2\text{O}} = 0.0273 \text{ mol C}_4\text{H}_{10}$$

$$c) \quad 2.46 \text{ g H}_2\text{O} \times \frac{1 \text{ mol H}_2\text{O}}{18.02 \text{ g H}_2\text{O}} \times \frac{2 \text{ mol C}_4\text{H}_{10}}{10 \text{ mol H}_2\text{O}} \times \frac{58.14 \text{ g C}_4\text{H}_{10}}{1 \text{ mol C}_4\text{H}_{10}} = 1.59 \text{ g C}_4\text{H}_{10}$$

$$d) \quad 2.46 \text{ g H}_2\text{O} \times \frac{1 \text{ mol H}_2\text{O}}{18.02 \text{ g H}_2\text{O}} \times \frac{13 \text{ mol O}_2}{10 \text{ mol H}_2\text{O}} \times \frac{32.00 \text{ g O}_2}{1 \text{ mol O}_2} = 5.68 \text{ g O}_2$$



$$a) \quad 25 \text{ mol C}_2\text{H}_6\text{O} \times \frac{3 \text{ mol O}_2}{1 \text{ mol C}_2\text{H}_6\text{O}} = 75 \text{ mol O}_2$$

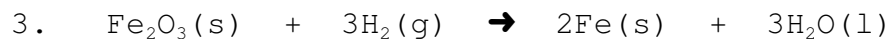
$$b) \quad 30 \text{ mol O}_2 \times \frac{1 \text{ mol C}_2\text{H}_6\text{O}}{3 \text{ mol O}_2} = 10 \text{ mol C}_2\text{H}_6\text{O}$$

$$30 \text{ mol O}_2 \times \frac{2 \text{ mol CO}_2}{3 \text{ mol O}_2} = 20 \text{ mol CO}_2$$

$$c) \quad 23 \text{ mol CO}_2 \times \frac{3 \text{ mol O}_2}{2 \text{ mol CO}_2} = 34.5 \text{ mol O}_2$$

$$d) \quad 41 \text{ mol H}_2\text{O} \times \frac{3 \text{ mol O}_2}{3 \text{ mol H}_2\text{O}} = 41 \text{ mol O}_2$$

$$41 \text{ mol H}_2\text{O} \times \frac{2 \text{ mol CO}_2}{3 \text{ mol H}_2\text{O}} = 27.3 \text{ mol CO}_2$$



$$\text{a)} \quad 25 \text{ mol Fe}_2\text{O}_3 \times \frac{2 \text{ mol Fe}}{1 \text{ mol Fe}_2\text{O}_3} = 50 \text{ mol Fe}$$

$$\text{b)} \quad 30 \text{ mol Fe} \times \frac{3 \text{ mol H}_2}{2 \text{ mol Fe}} = 45 \text{ mol H}_2$$

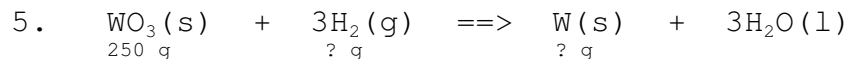
$$\text{c)} \quad 120 \text{ mol H}_2\text{O} \times \frac{1 \text{ mol Fe}_2\text{O}_3}{3 \text{ mol H}_2\text{O}} \times \frac{159.7 \text{ g Fe}_2\text{O}_3}{1 \text{ mol Fe}_2\text{O}_3} = 6388 \text{ g Fe}_2\text{O}_3$$



$$\text{a)} \quad 2.68 \text{ mol N}_2\text{H}_4 \times \frac{7 \text{ mol H}_2\text{O}_2}{1 \text{ mol N}_2\text{H}_4} = 18.76 \text{ mol H}_2\text{O}_2$$

$$\text{b)} \quad 2.68 \text{ mol N}_2\text{H}_4 \times \frac{2 \text{ mol HNO}_3}{1 \text{ mol N}_2\text{H}_4} = 5.36 \text{ mol HNO}_3$$

$$\text{c)} \quad 2.68 \text{ mol N}_2\text{H}_4 \times \frac{8 \text{ mol H}_2\text{O}}{1 \text{ mol N}_2\text{H}_4} = 21.44 \text{ mol H}_2\text{O}$$



$$\text{a)} \quad 250 \text{ g WO}_3 \times \frac{1 \text{ mol WO}_3}{231.84 \text{ g WO}_3} \times \frac{1 \text{ mol W}}{1 \text{ mol WO}_3} \times \frac{183.84 \text{ g W}}{1 \text{ mol W}} = 198 \text{ g W}$$

$$\text{b)} \quad 250 \text{ g WO}_3 \times \frac{1 \text{ mol WO}_3}{231.84 \text{ g WO}_3} \times \frac{3 \text{ mol H}_2}{1 \text{ mol WO}_3} \times \frac{2.02 \text{ g H}_2}{1 \text{ mol H}_2} = 6.53 \text{ g H}_2$$