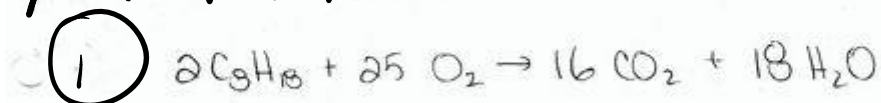


# Mole-Mole Problems:



a)  $8.00\text{ mol C}_8\text{H}_{18} \left( \frac{25\text{ mol O}_2}{2\text{ mol C}_8\text{H}_{18}} \right) = 100. \text{ mol O}_2$

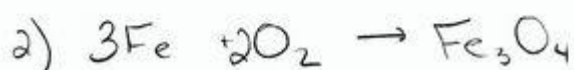
b)  $0.40\text{ mol C}_8\text{H}_{18} \left( \frac{25\text{ mol O}_2}{2\text{ mol C}_8\text{H}_{18}} \right) = 5.0\text{ mol O}_2$

c)  $6.00\text{ mol C}_8\text{H}_{18} \left( \frac{16\text{ mol CO}_2}{2\text{ mol C}_8\text{H}_{18}} \right) = 48.0\text{ mol CO}_2$

d)  $3.60\text{ mol H}_2\text{O} \left( \frac{25\text{ mol O}_2}{18\text{ mol H}_2\text{O}} \right) = 5.00\text{ mol O}_2$

e)  $6.30\text{ mol H}_2\text{O} \left( \frac{16\text{ mol CO}_2}{18\text{ mol H}_2\text{O}} \right) = 5.60\text{ mol CO}_2$

f)  $0.400\text{ mol CO}_2 \left( \frac{25\text{ mol O}_2}{16\text{ mol CO}_2} \right) = 0.625\text{ mol O}_2$



b)  $5.00\text{ mol Fe} \left( \frac{2\text{ mol O}_2}{3\text{ mol Fe}} \right) = 3.33\text{ mol O}_2$

c)  $0.200\text{ mol Fe}_3\text{O}_4 \left( \frac{3\text{ mol Fe}}{1\text{ mol Fe}_3\text{O}_4} \right) = 0.600\text{ mol Fe}$

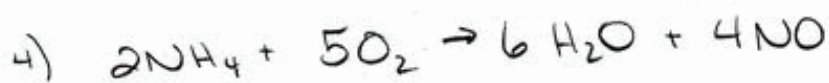
d)  $5.00\text{ mol O}_2 \left( \frac{3\text{ mol Fe}}{2\text{ mol O}_2} \right) = 7.50\text{ mol Fe}$



a)  $1.00 \text{ mol Al} \left( \frac{6 \text{ mol HCl}}{2 \text{ mol Al}} \right) = 3.00 \text{ mol HCl}$

b)  $0.180 \text{ mol HCl} \left( \frac{2 \text{ mol Al}}{6 \text{ mol HCl}} \right) = 0.0600 \text{ mol Al}$

c)  $54.2 \text{ mol H}_2 \left( \frac{2 \text{ mol AlCl}_3}{3 \text{ mol H}_2} \right) = 36.1 \text{ mol AlCl}_3$



a)  $17.0 \text{ mol NH}_4 \left( \frac{5 \text{ mol O}_2}{2 \text{ mol NH}_4} \right) = 42.5 \text{ mol O}_2$

b)  $28.0 \text{ mol NH}_4 \left( \frac{6 \text{ mol H}_2\text{O}}{2 \text{ mol NH}_4} \right) = 84.0 \text{ mol H}_2\text{O}$

c)  $29.0 \text{ mol H}_2\text{O} \left( \frac{5 \text{ mol O}_2}{6.0 \text{ mol H}_2\text{O}} \right) = 24.2 \text{ mol O}_2$

d)  $32.0 \text{ mol H}_2\text{O} \left( \frac{4 \text{ mol NO}}{6 \text{ mol H}_2\text{O}} \right) = 21.3 \text{ mol NO}$