Answers are displayed below to check your work. Make sure to show all of your work to receive credit.

1) HCl + NaOH 🡺 NaCl + H2O

If 2.0 mol of HCl is reacted with 2.5 mol of NaOH:

1. What is the limiting reactant?
2. How many mol of NaCl are produced?
3. How many mol of the excess reactant remain?

2) Zn + HCl 🡺 ZnCl2 + H2

If 2.5 mol of Zn is reacted with 4.0 mol of HCl:

1. What is the limiting reactant?
2. How many mol of H2 are produced?
3. How many mol of the excess reactant remain?

3) H2SO4 + Al(OH)3 🡺 H2O + Al2(SO4)3

If 30.0 g of H2SO4 is reacted with 25.0 g of Al(OH)3:

1. What is the limiting reactant?
2. How many g of H2O are produced?
3. How many g of Al2(SO4)3 are produced?
4. How many g of the excess reagent remain?

4) Copper reacts with sulfur (S) to produce copper (I) sulfide. How many grams of copper (I) sulfide can be produced by reacting 80.0 g of copper with 25.0 g of sulfur (S)?

5) CH4 reacts with O2 to produce CO2 and H2O. If 2.0 mol of CH4 is mixed with 3.0 mol of O2, how many mol of CO2 can be produced?

1a) HCl 1b) 2.0 mol NaCl 1c) 0.5 mol NaOH 2a) HCl 2b) 2.0 mol H2 2c) 0.5 mol Zn

3a) H2SO4 3b) 11.0 g H2O 3c) 34.9 g Al2(SO4)3 3d) 9.09 g Al(OH)3 4) 100. g of Cu2S

5) 1.5 mol CO2