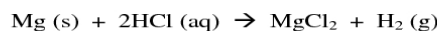


Date: _____ Block: _____ Name: _____

Chemistry 11 - MOLE RATIOS (using the three step method)

Magnesium metal reacts with hydrochloric acid to produce magnesium chloride and hydrogen gas. The chemical equation is given as the following:



If 4 moles of HCl is used, how many moles of MgCl_2 will be formed in the reaction?

Step (1): What is the mole ratio for HCl to MgCl_2 ?



Step (2): Write two conversion factors for this mole ratio.



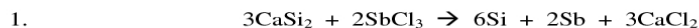
Step (3): Calculate the number of moles of MgCl_2 formed.

What you want = What you have X Conversion factor



2 mol MgCl_2

Now try these example questions on a separate sheet of paper using the 3-step method!



a) If 0.65 moles of CaSi_2 is used, how many moles of Sb will be formed in the reaction?

Answer: 0.43 mol Sb

b) If 1.47 moles of Si is formed in the reaction, how many moles of SbCl_3 was used at the start of the reaction?

Answer: 0.49 mol SbCl_3

2. In a Chemistry 11 experiment, John mixes 0.010 moles of calcium chloride together with silver nitrate in a beaker. This results in the formation of silver chloride and calcium nitrate. How many moles of silver chloride are formed in the reaction?

Answer: 0.020 mol AgCl