

# STOICHIOMETRY AND SOLUTIONS : I

## Mole Method Review

Step 1 grams to moles

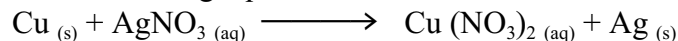
Step 2 moles to moles

Step 3 moles to grams

## Concentration Review

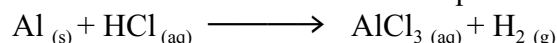
$$c = \text{moles} / \text{vol (L)} \quad \text{Therefore moles} = \text{concentration} \times \text{volume}$$

1. Calculate the volume of 2.00 M AgNO<sub>3</sub> solution that is needed for 12.0 g of Cu to react according to the following equation.



2. How much AgCl (s) will be formed when 25.0 mL of 0.1 M AgNO<sub>3</sub> is added to an excess of BaCl<sub>2(aq)</sub>? (Write a balanced equation first!).

3. Calculate the volume of 1.50 M HCl that is required for 5.40 g of Al to react completely.

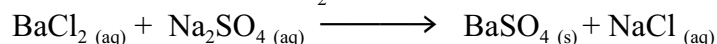


4. Zinc metal reacts with HCl<sub>(aq)</sub> ...

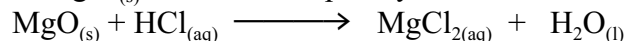


Determine the mass of zinc that is required to completely react with 75.0 mL of 3.0 M HCl.

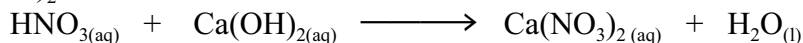
5. Calculate the volume of 0.110 M Na<sub>2</sub>SO<sub>4</sub> required to precipitate the maximum mass of BaSO<sub>4</sub> from 60.0 mL of 0.145 M BaCl<sub>2</sub> solution.



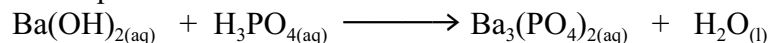
6. What mass of MgO<sub>(s)</sub> can react completely with 125 mL of 2 M solution of HCl ?



7. How many grams of Ca(NO<sub>3</sub>)<sub>2</sub> can be prepared by reacting 125 mL of 5.00 M HNO<sub>3</sub> with an excess of Ca(OH)<sub>2</sub> ?



8. If 5.25 g of barium hydroxide is to be neutralized with phosphoric acid, 0.200 mol L<sup>-1</sup> according to the equation ...



What volume of acid would be required for complete reaction?

[ What did one titration say to the other?

Let's meet at the end-point !!!

What do you call a convict who dresses up as a clown?

Sili-con !!!

]