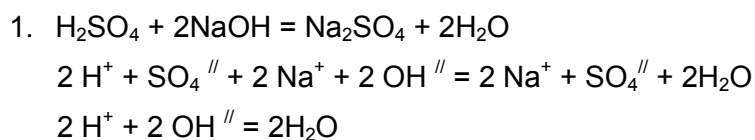1. Calculate the molar concentration of 20.0 mL of the sulphuric acid when 10 ml of 1.00 mol/L sodium hydroxide is used as the titrant.

2. Write the total ionic and net ionic equations for this reaction.

Answer:

1. $H_2SO_4 + 2NaOH = Na_2SO_4 + 2H_2O$

   $2 H^+ + SO_4{}'' + 2 Na^+ + 2 OH'' = 2 Na^+ + SO_4{}'' + 2H_2O$

   $2 H^+ + 2 OH'' = 2H_2O$

   $C_M = n/V$

   $n (NaOH) = 2 \times n (H_2SO_4)$

   $C_M (H_2SO_4) \times 20 = 2 \times 1 \times 10$

   $C_M (H_2SO_4) = 1$ mol/L