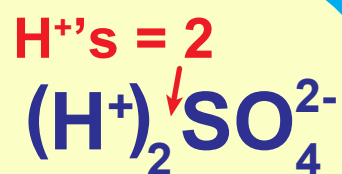


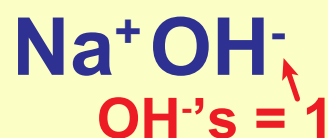
43.8cm<sup>3</sup> of 0.38mol<sup>-1</sup> Sodium Hydroxide is neutralised by 27.9cm<sup>3</sup> of Sulfuric Acid of unknown concentration.

Find the concentration of the Sulfuric Acid.

Sulfuric Acid makes sulfates so needs 2 H<sup>+</sup>'s to balance the 2- on the SO<sub>4</sub><sup>2-</sup> ion.



The sodium ion is just 1+ so only needs 1 OH<sup>-</sup> to balance it's charge.



We are looking for the concentration of acid so write the H<sup>+</sup> first.

millimoles of H<sup>+</sup> = millimoles of OH<sup>-</sup>

vol x mol<sup>-1</sup> x H<sup>+</sup>'s = vol x mol<sup>-1</sup> x OH<sup>-</sup>'s

$$\frac{27.9 \times x \times 2}{(27.9 \times 2)} = \frac{43.8 \times 0.38 \times 1}{(27.9 \times 2)}$$

$$x = 0.38 \text{ mol}^{-1}$$