Name:

Date:

Titrations - 1

GCSE

CHEMISTRY

Mark	Grade

Materials

For this paper you must have:

- Ruler
- Pencil and Rubber
- Scientific calculator, which you are expected to use when appropriate

Instructions

- Answer all questions
- Answer questions in the space provided
- All working must be shown

Information

- The marks for the questions are shown in brackets

1. 25.0 cm3 of 0.200 mol/dm3 barium hydroxide solution reacted with 22.8 cm3 of hydrochloric acid. Calculate the concentration of the hydrochloric acid in mol/dm3. Give your answer to 3 significant figures.

$$Ba(OH)_2(aq) + 2\ HCl(aq) \rightarrow BaCl_2(aq) + 2\ H_2O(l)$$

Answer:

2. 22.5 cm3 of sodium hydroxide solution reacted with 25.0 cm3 of 0.100 mol/dm3 hydrochloric acid.

$$NaOH(aq) + HCl(aq) \rightarrow NaCl(aq) + H_2O(l)$$

a) Calculate the concentration of the sodium hydroxide solution in mol/dm3. Give your answer to 3 significant figures.

Answer:

b) Calculate the concentration of the sodium hydroxide solution in g/dm3. Give your answer to 3 significant figures.

Answer:

3. What volume of 0.150 mol/dm3 rubidium hydroxide reacts with 25.0 cm3 of 0.240 mol/dm3 nitric acid? Give your answer to 3 significant figures.

$$RbOH(aq) + HNO_3(aq) \rightarrow RbNO_3(aq) + H_2O(l)$$

Answer:

4. 25.0 cm3 of 0.200 mol/dm3 sodium hydroxide solution reacted with 28.7 cm3 sulfuric acid. Calculate the concentration of the sulfuric acid in mol/dm3. Give your answer to 3 significant figures.

$$2\ NaOH(aq) + H_2SO_4(aq) \rightarrow Na_2SO_4(aq) + 2\ H_2O(l)$$

Answer:

5. 25.0 cm3 of 0.150 mol/dm3 sodium hydroxide reacted with 30.3 cm3 of a solution of ethanoic acid.

$$CH_3COOH(aq) + NaOH(aq) \rightarrow CH_3COONa\ (aq) + H_2O(l)$$

a) Calculate the concentration of the ethanoic acid in mol/dm3. Give your answer to 3 significant figures.

Answer:

b) Calculate the concentration of the ethanoic acid in g/dm3. Give your answer to 3 significant figures.

Answer:

6. 25.0 cm3 of a solution of sodium hydroxide solution required 21.5 cm3 of 0.100 mol/dm3 sulfuric acid for neutralisation.

$$H_2SO_4(aq) + 2\ NaOH(aq) \rightarrow Na_2SO_4(aq) + 2\ H_2O(l)$$

a) Find the concentration of the sodium hydroxide solution in mol/dm3. Give your answer to 3 significant figures.

Answer:

b) Find the concentration of the sodium hydroxide solution in g/dm3. Give your answer to 3 significant figures.

Answer:

7. Find the volume of 1.20 mol/dm3 hydrochloric acid that reacts with 25.0 cm3 of 1.50 mol/dm3 sodium hydroxide. Give

$$HCl(aq) + NaOH(aq) \rightarrow NaCl(aq) + H_2O(l)$$

Answer: