



# Chemical Changes

## Multiple Choice Questions

### Set 5 (Chemistry Only)

Tick **one** box.

1. What is the name of the process used to measure the exact volume of an acid required to neutralise an alkali?

- A. distillation
- B. electrolysis
- C. oxidation
- D. titration

2. 25cm<sup>3</sup> of sodium hydroxide is placed in a conical flask. What piece of equipment should be used to slowly add small, measured volumes of hydrochloric acid to the sodium hydroxide?

- A. beaker
- B. burette
- C. measuring cylinder
- D. pipette

3. How is the end point of a titration determined?

- A. when a set amount of acid has been added to the alkali
- B. when all of the alkali has been used up
- C. when the alkali has been added for a set amount of time
- D. when the indicator permanently changes colour

4. If the start reading in a titration is 0.75cm<sup>3</sup> and the end reading is 32.25cm<sup>3</sup>, what is the titre?

- A. 24.25cm<sup>3</sup>
- B. 31.50cm<sup>3</sup>
- C. 33.00cm<sup>3</sup>
- D. 43.00cm<sup>3</sup>

5. The table shows the results of a titration.

Which results should be used to calculate the mean titre?

- A. all of them
- B. trials 1 and 2
- C. trials 2 and 4
- D. trials 2, 3 and 4

Trial	Titre
1	27.95cm <sup>3</sup>
2	23.55cm <sup>3</sup>
3	25.05cm <sup>3</sup>
4	23.45cm <sup>3</sup>



6. In a different titration, a student recorded titres of  $19.30\text{cm}^3$ ,  $19.40\text{cm}^3$  and  $19.90\text{cm}^3$ . What is the mean titre?
- A.  $19.35\text{cm}^3$
- B.  $24.02\text{cm}^3$
- C.  $25.00\text{cm}^3$
- D.  $19.75\text{cm}^3$

**HT Only**

7. A solution of sodium nitrate has a concentration of  $0.25\text{mol/dm}^3$ . How many moles of sodium nitrate are dissolved in  $5\text{dm}^3$  of the solution?
- A. 0.05
- B. 1.25
- C. 4.75
- D. 5.25
8.  $0.5\text{mol}$  of potassium hydroxide is dissolved in  $4\text{dm}^3$  of water. What is the concentration of potassium hydroxide solution formed?
- A.  $0.125\text{mol/dm}^3$
- B.  $2.0\text{mol/dm}^3$
- C.  $3.5\text{mol/dm}^3$
- D.  $4.5\text{mol/dm}^3$
9. In a titration,  $30\text{cm}^3$  of  $0.5\text{mol/dm}^3$  potassium hydroxide (KOH) is neutralised by  $60\text{cm}^3$  of hydrochloric acid (HCl). What is the concentration of the hydrochloric acid.
- A.  $0.25\text{mol/dm}^3$
- B.  $0.50\text{mol/dm}^3$
- C.  $0.75\text{mol/dm}^3$
- D.  $1.00\text{mol/dm}^3$
10. In a titration,  $1.25\text{mol/dm}^3$  sodium hydroxide (NaOH) is added to  $50\text{cm}^3$  of  $0.50\text{mol/dm}^3$  hydrochloric acid (HCl). What volume of sodium hydroxide is needed to neutralise the hydrochloric acid?
- A.  $10\text{cm}^3$
- B.  $12.5\text{cm}^3$
- C.  $20\text{cm}^3$
- D.  $50\text{cm}^3$