

Distance-Time Graphs

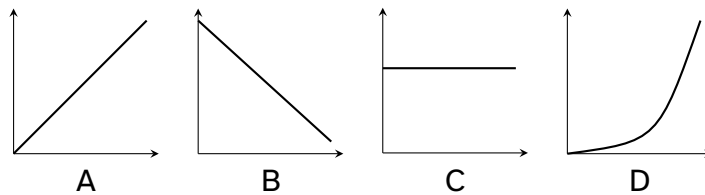
For AQA GCSE Mathematics (8300) • Foundation tier

Name _____

Total marks: **26**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

1 Here are four distance-time graphs.



(a) Circle the graph that shows an object that is not moving.

[1 mark]

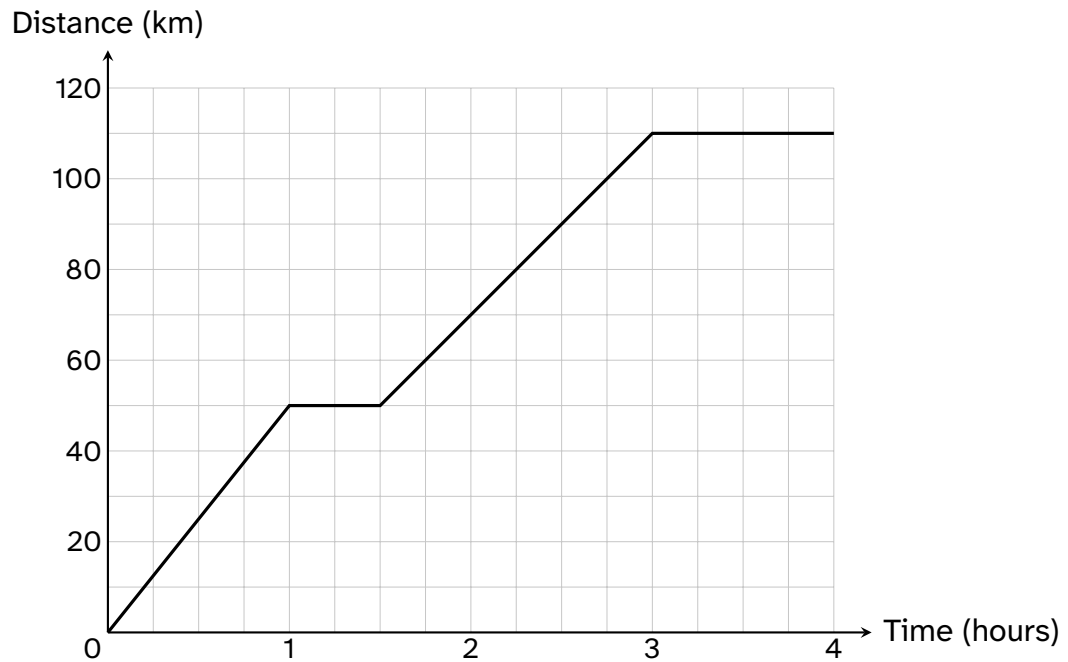
☐ A☐ B☐ C☐ D

(b) Circle the graph that shows an object that is speeding up.

[1 mark]

☐ A☐ B☐ C☐ D

- 2 The distance-time graph shows Sam's car journey.



- (a) How far did Sam travel in the first hour?

[1 mark]

Answer _____ km

- (b) What happened between 1 hour and 1.5 hours?

[1 mark]

- (c) Work out Sam's speed between 1.5 hours and 3 hours.

[2 marks]

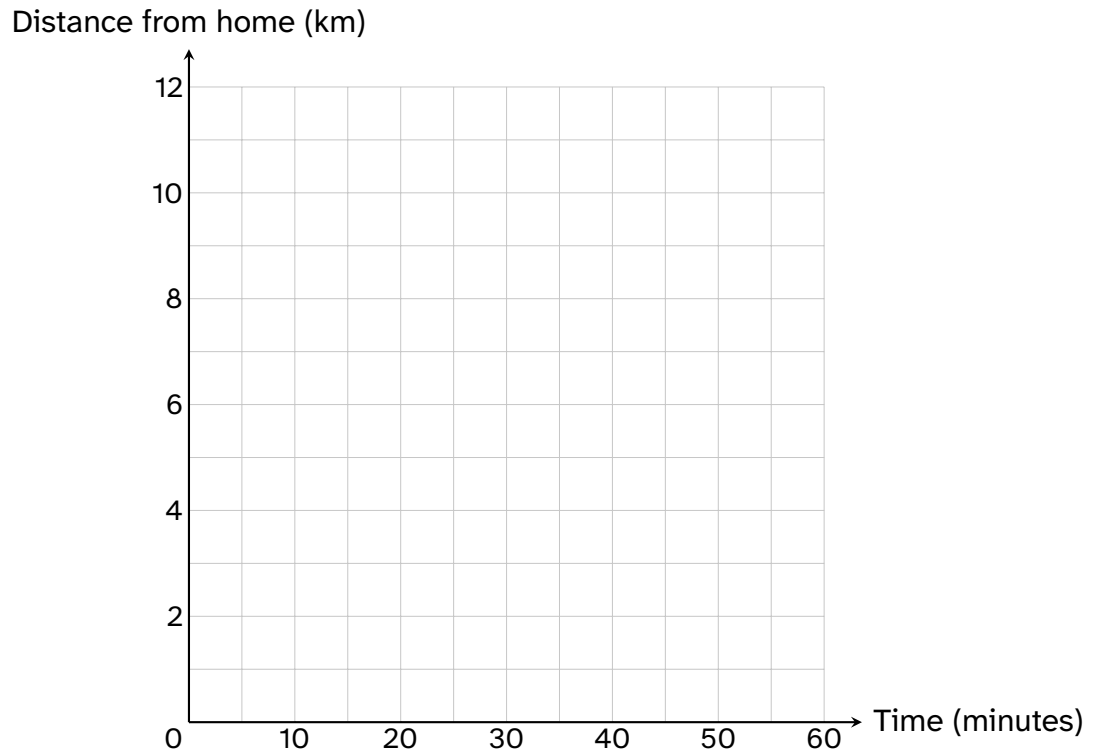
Answer _____ km/h

- (d) Was Sam faster in the first hour or between 1.5 and 3 hours?
Give a reason for your answer.

[1 mark]

- 3** Tomasz cycles from his home to his grandmother's house.
He cycles the first 6 km at a constant speed of 18 km/h.
He then stops at a shop for 10 minutes.
He then cycles the last 4 km in 20 minutes.

(a) On the grid, draw a distance-time graph for his journey.



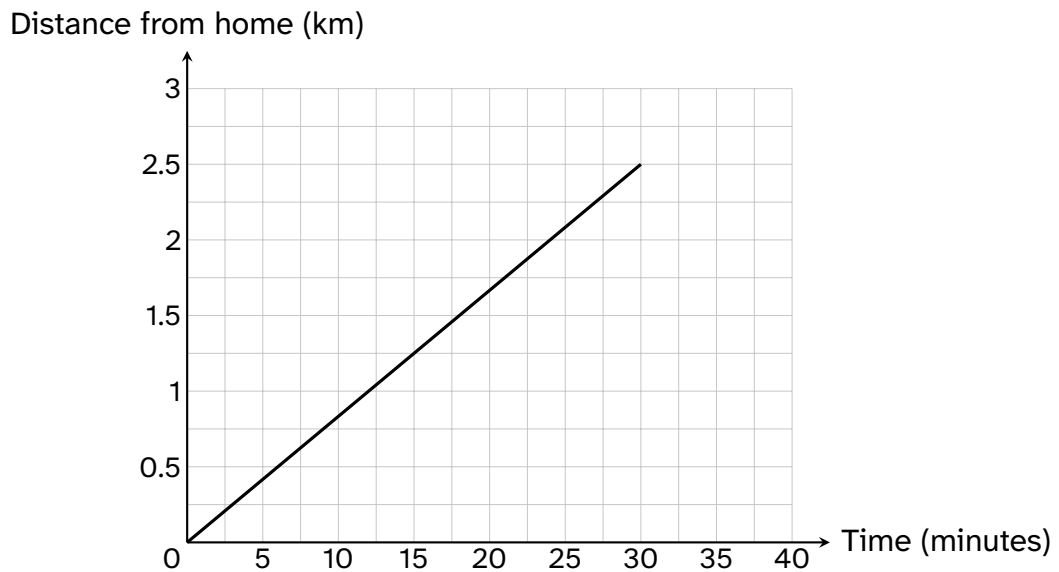
[3 marks]

- (b) Work out his average speed for the whole journey.
Give your answer in km/h.

[2 marks]

Answer _____ km/h

- 4 Kasia walks from her home to the railway station.
The distance-time graph shows her walk.



- (a) Work out Kasia's walking speed in km/h.

[2 marks]

Answer _____ km/h

- (b) Her brother Rhys leaves home 10 minutes after Kasia.
He cycles along the same route to the station at a constant speed of 15 km/h.
Draw a line on the graph to show Rhys's journey.

[2 marks]

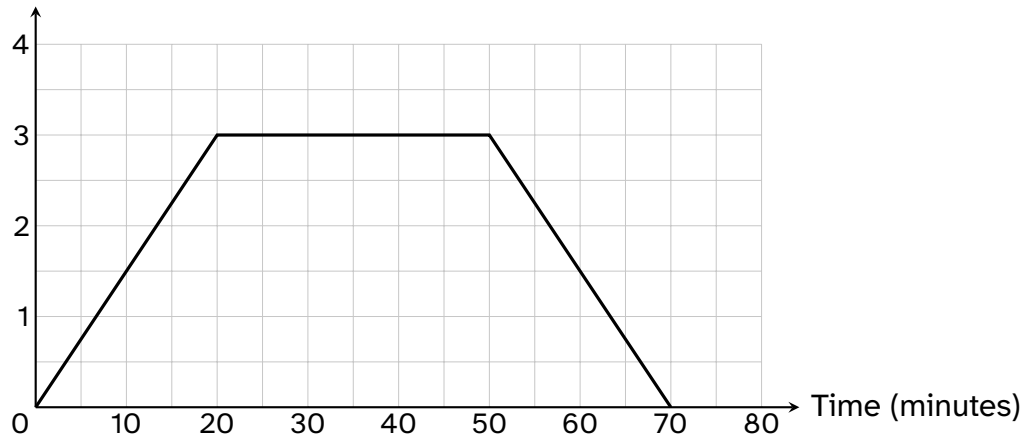
- (c) How far from home were they when Rhys passed Kasia?

[1 mark]

Answer _____ km

- 5 Grace cycles from her home to a swimming pool 3 km away. She cycles at a constant speed of 12 km/h. She stays at the pool for 40 minutes. She then cycles home at a constant speed in 20 minutes. Grace draws this distance-time graph to show her trip.

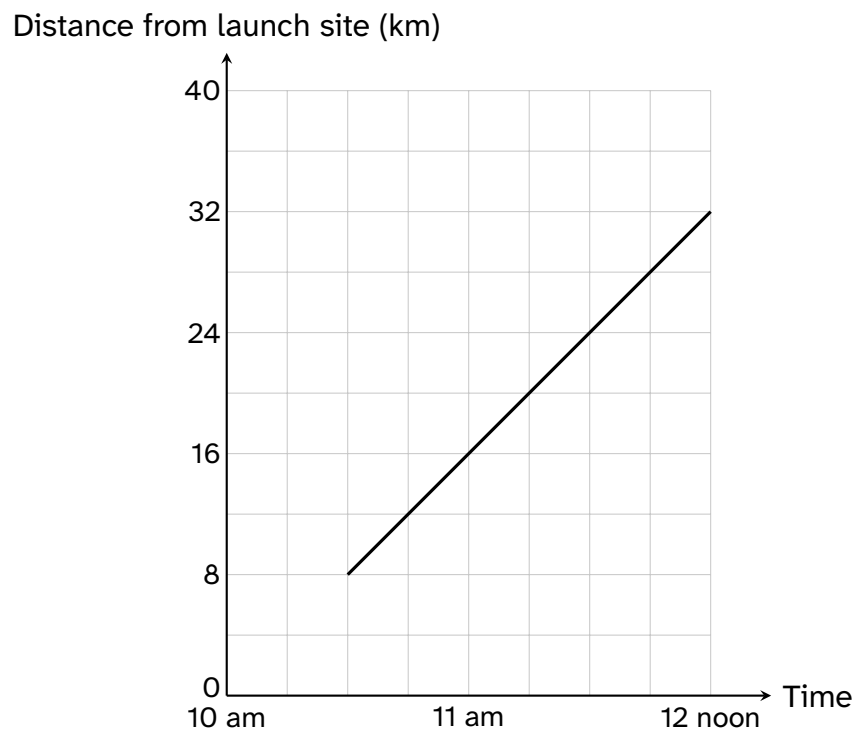
Distance from home (km)



Write down **two** mistakes in her graph.

[2 marks]

- 6 A hot-air balloon drifts in a straight line away from its launch site. The distance-time graph shows part of its flight.



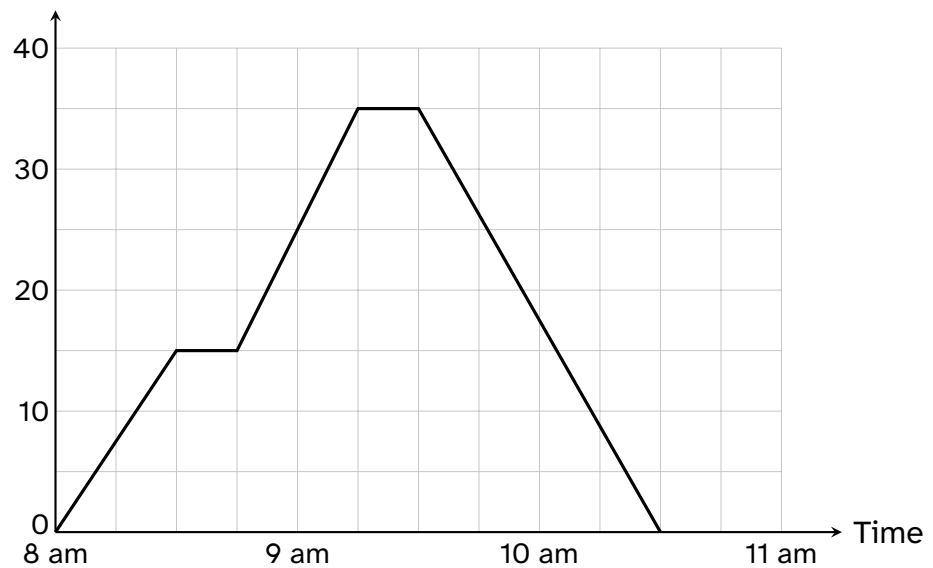
Work out the speed of the balloon between 10:30 am and 12 noon.

[3 marks]

Answer _____ km/h

- 7** Here is the distance-time graph for a coach trip between 8 am and 10:30 am.

Distance from coach station (miles)



- (a) Work out the speed of the coach between 8:45 am and 9:15 am.

[2 marks]

Answer _____ mph

- (b) Work out the average speed of the coach for the whole trip, from 8 am to 10:30 am.

[2 marks]

Answer _____ mph