



Name: _____ **Date:** _____ **Score:** _____ / 40

1 A distance-time graph for a train journey is a straight line from the origin. It passes through the point (1 h 30 min, 150 km).

- Work out the speed of the train.
- How far has the train travelled after 2 hours 15 minutes, at the same speed?

(3 marks)

Answer _____

2 Amina cycles from home to a lake and back. She leaves home at 09:00. By 09:30 she is 12 km from home (the graph is a straight line up to this point). She then stays at the lake until 10:00. She cycles straight home at a steady speed and arrives at 11:00.

- For how many minutes was Amina at the lake?
- Work out her speed on the way to the lake.
- Work out her speed on the way home.

(4 marks)

Answer _____

3 Amy cycles from her house to the library.
She leaves home at 09:00 and arrives at the library at 09:45.
The library is 12 km from her house and she cycles at a steady speed.
Work out Amy's average speed in km/h.

(3 marks)

Answer _____

- 4 Callum cycles for 100 minutes. On a distance-time graph the first stage is a straight line from (0, 0) to (40 min, 10 km). The second stage is a straight line from (40 min, 10 km) to (100 min, 28 km).

Which stage was faster? Show your working.

(3 marks)

Answer _____

- 5 A coach leaves Leeds at 08:00. It travels 54 km in the first hour. It then stops for 30 minutes. It then travels at a steady 60 km/h until 11:00, when it arrives in London.

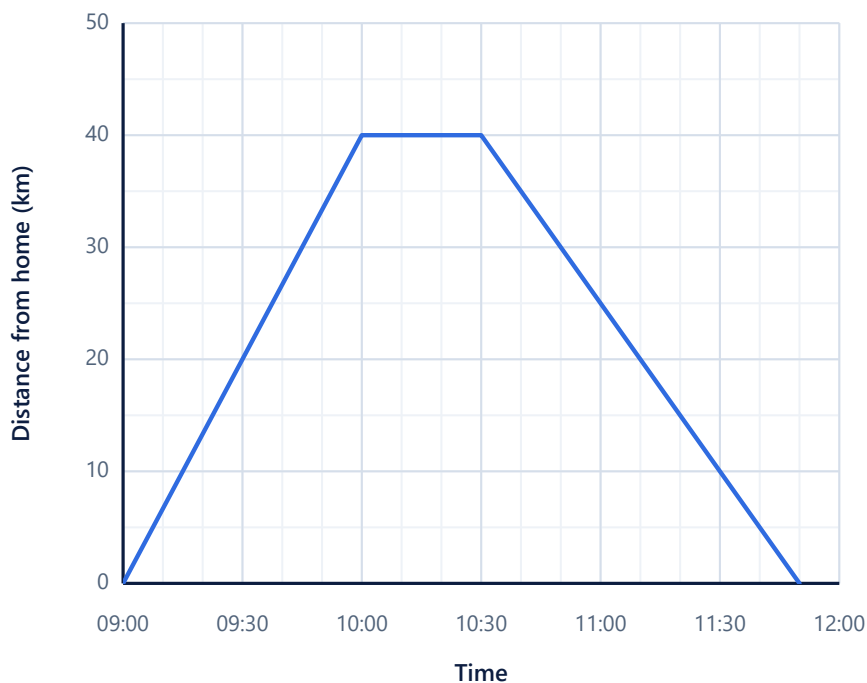
a. How far is the coach from Leeds at 10:15?

b. Work out the average speed of the coach for the whole journey from 08:00 to 11:00.

(4 marks)

Answer _____

- 6** The distance-time graph shows Marek's car journey from home to a garden centre and back.
- For how many minutes does Marek stay at the garden centre?
 - Work out his speed, in km/h, on the way to the garden centre.
 - Work out his speed, in km/h, on the way home.



(3 marks)

Answer _____

- 7** Leon walks to his friend's house. He leaves home at 10:00. The distance-time graph is a straight line which reaches 3 km at 10:45. He keeps walking at the same speed.
- Work out his speed in km/h.
 - His friend lives 7 km from Leon's home. At what time does Leon arrive?

(3 marks)

Answer _____

- 8** A car accelerates from rest. Its distance-time graph is a curve. A tangent is drawn to the curve at $t = 5$ seconds. The tangent passes through the points (3 s, 10 m) and (7 s, 50 m).
- Work out the speed of the car at $t = 5$ seconds, in m/s.
 - Change your answer to km/h.

(3 marks)

Answer _____

- 9** Ben drives from Leeds to visit his aunt.
- He leaves Leeds at 09:30 and drives 60 km in 1 hour.
- He then stops at a service station for 30 minutes.
- He then drives a further 40 km in 1 hour to arrive at his aunt's house.
- Work out the time Ben arrives at his aunt's house.
 - Work out Ben's average speed, in km/h, for the whole journey from Leeds to his aunt's house.

(4 marks)

Answer _____

- 10** Sara walks from home to a park 3 km away.
- She leaves home at 14:00 and walks at a steady speed, arriving at the park at 14:40.
- She stays at the park for 30 minutes.
- She then walks straight home at a steady speed of 4 km/h.
- Work out Sara's speed, in km/h, on the way to the park.
 - Work out the time Sara arrives back home.
 - Work out the total time, in hours and minutes, that Sara is away from home.

(5 marks)

Answer _____

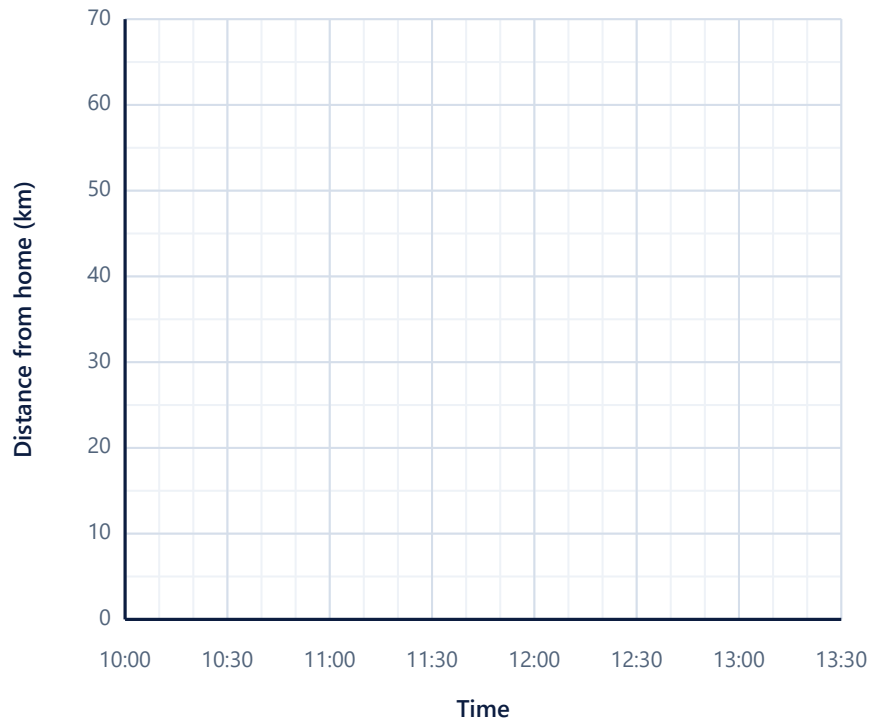
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Jamal leaves home at 10:00 and drives at a steady speed of 60 km/h for 1 hour.

He rests for 30 minutes.

He then drives straight home at a steady speed of 40 km/h.

- Draw a distance-time graph for Jamal's journey.
- Work out the time Jamal arrives back home.



(5 marks)

Answer

End of questions | Total 40 marks