4.4 Real Life and Distance Time Graphs: 10-minute Pack

EDEXCEL 1MA1 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A person walks away from home and later returns. Their distance-time data are: 0 min = 0 km, 15 min = 1.2 km, 30 min = 2.0 km, 45 min = 0 km.
How long after the start did they return to their home?

(Total for Question 1 is 1 mark)

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2 A cyclist rides along a straight path at a steady speed of 12 km/h, shown on a distance-time graph as a straight line through the origin.
Work out the distance the cyclist has travelled after 30 minutes.

(Total for Question 2 is 1 mark)

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3 A recorded distance-time sequence shows: 0 s = 0 m, 6 s = 90 m, 12 s = 150 m, 20 s = 90 m.
Between which two recorded times did the person change direction?

(Total for Question 3 is 1 mark)

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4 A cyclist's distance from home is shown by a straight line from (time, distance) (0 min, 0 km) to (30 min, 2.0 km).
Work out the cyclist's speed in km/h between 0 and 30 minutes.

(Total for Question 4 is 2 marks)

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5 The distance-time graph of a bus is a straight line from the point (0 minutes, 3 km) to the point (15 minutes, 6 km).
Work out the speed of the bus in kilometres per hour.

(Total for Question 5 is 3 marks)

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Mark scheme · 4.4 Real Life and Distance Time Graphs: 10-minute Pack

Question 1

45 minutes cao	**B1**

Answer: 45 minutes

Question 2

6 km cao	**B1**

Answer: 6 km

Question 3

between 12 s and 20 s cao	**B1**

Answer: Between 12 s and 20 s

Question 4

calculate gradient: 2.0 km / 30 min and convert to km/h, e.g. (2.0/30)*60 oe	**M1**
4 km/h cao	**A1**

Answer: 4 km/h

Question 5

gradient = change in distance / change in time	**M1**
converts minutes to hours	**M1**
12 km/h	**A1**

Answer: 12 km/h

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