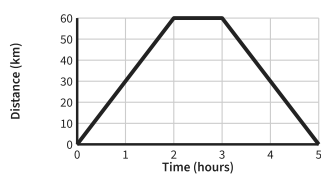


Speed and graphs

1

The graph shows a coach journey. Find the speed of the coach for the first 2 hours.

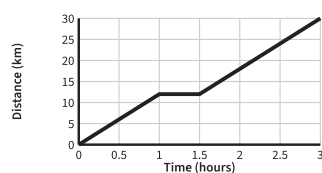


Distance **60** km
Time **2** hours
Speed $60 \div 2 = 30$ km/h

Answer 30 km/h

2

The graph shows a cycle ride. Find the speed for the last part of the ride.

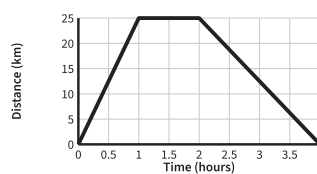


Distance **18** km
Time **1.5** hours
Speed $18 \div 1.5 = 12$ km/h

Answer 12 km/h

3

The graph shows a boat trip out and back. Find the speed of the boat on the way back.

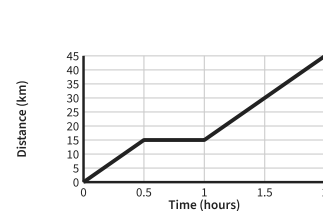


Distance **25** km
Time **2** hours
Speed $25 \div 2 = 12.5$ km/h

Answer 12.5 km/h

4

The graph shows a bus journey. Find the speed of the bus after its stop.

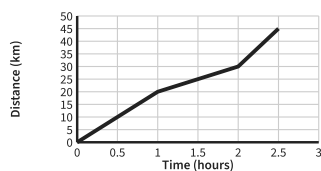


Speed $30 \div 1 = 30$ km/h

Answer 30 km/h

5

The graph shows a journey in three parts. Find the greatest speed during the journey.

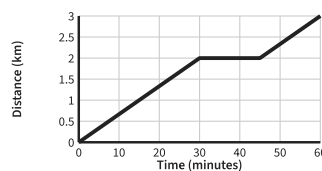


the steepest part: 15 km in 0.5 hours

Answer 30 km/h

6

The graph shows a walk. Find the speed for the first 30 minutes in km/h.

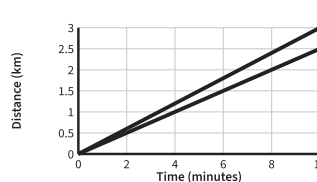


2 km in half an hour

Answer 4 km/h

7

The graph shows two runners, A and B, in the first 10 minutes of a race. How much faster than A is B, in km/h?

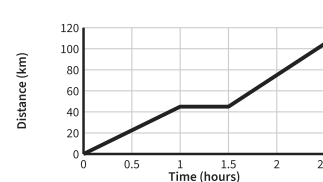


A 15 km/h, B 18 km/h

Answer 3 km/h

8

The graph shows a car journey with a stop. Find the average speed for the whole journey, including the stop.



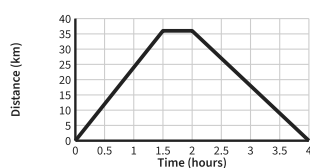
105 km in 2.5 hours

Answer 42 km/h

Speed and graphs further practice

9

The graph shows a ferry crossing and its return. Find the speed of the ferry on the way back.



36 km in 2 hours

Answer 18 km/h

10

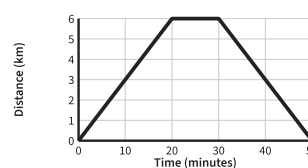
A car travels at 48 km/h for 15 minutes, then stops for 15 minutes. How far has it gone after 30 minutes? Describe the graph of distance against time for the stop.

$48 \times 0.25 = 12$, and the distance does not change while it stops

Answer 12 km; a flat line

11

The graph shows a cycle ride to a shop and home again. Find the speed on the way to the shop in km/h.

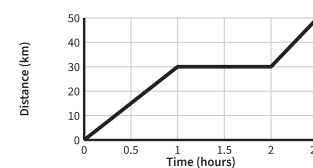


6 km in 20 minutes

Answer 18 km/h

12

The graph shows a journey. How long was the stop, and what was the speed after it?

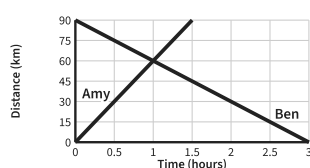


20 km in 0.5 hours

Answer 1 hour, 40 km/h

13

Amy and Ben travel towards each other on the same road. The graph shows their distances from Amy's start. When do they meet, and how far from Amy's start?

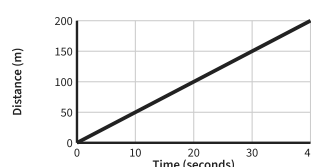


the lines cross at (1, 60)

Answer after 1 hour, 60 km

14

The graph shows a cyclist. Find the speed in m/s, then in km/h.



$200 \div 40 = 5$, then $5 \times 3600 \div 1000$

Answer 5 m/s, 18 km/h

15

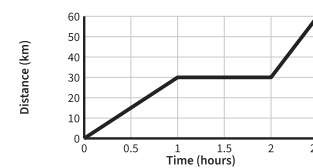
The graph of a train's journey is a straight line from (0, 0) to (2.5, 200), with time in hours and distance in km. At the same speed, how long would it take to travel 140 km?

speed $200 \div 2.5 = 80$ km/h,
 $140 \div 80 = 1.75$ hours

Answer 1 hour 45 minutes

16

Ella says the average speed for this journey is the mean of the speeds of its three parts. Explain her mistake and find the average speed.



the parts take different times; total distance $\div$ total time = $60 \div 2.5$

Answer 24 km/h