EXAM PAPERS PRACTICE

GCSE OCR Math J560

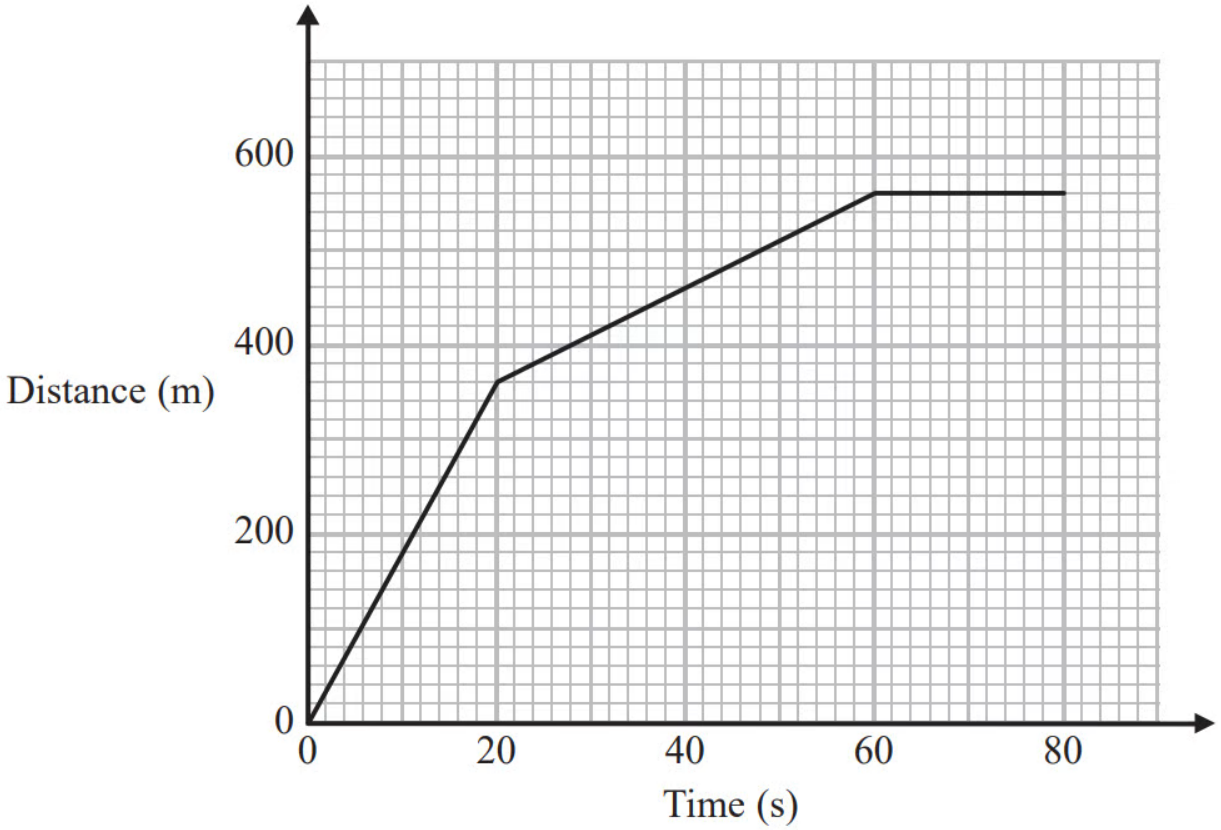
D-T / V-T Graphs

Question Paper

"We will help you to achieve A Star "

Question 1

Here is part of a distance-time graph for a car's journey.



(a) Between which two times does the car travel at its greatest speed?
Give a reason for your answer.

[2 marks]

Question 2

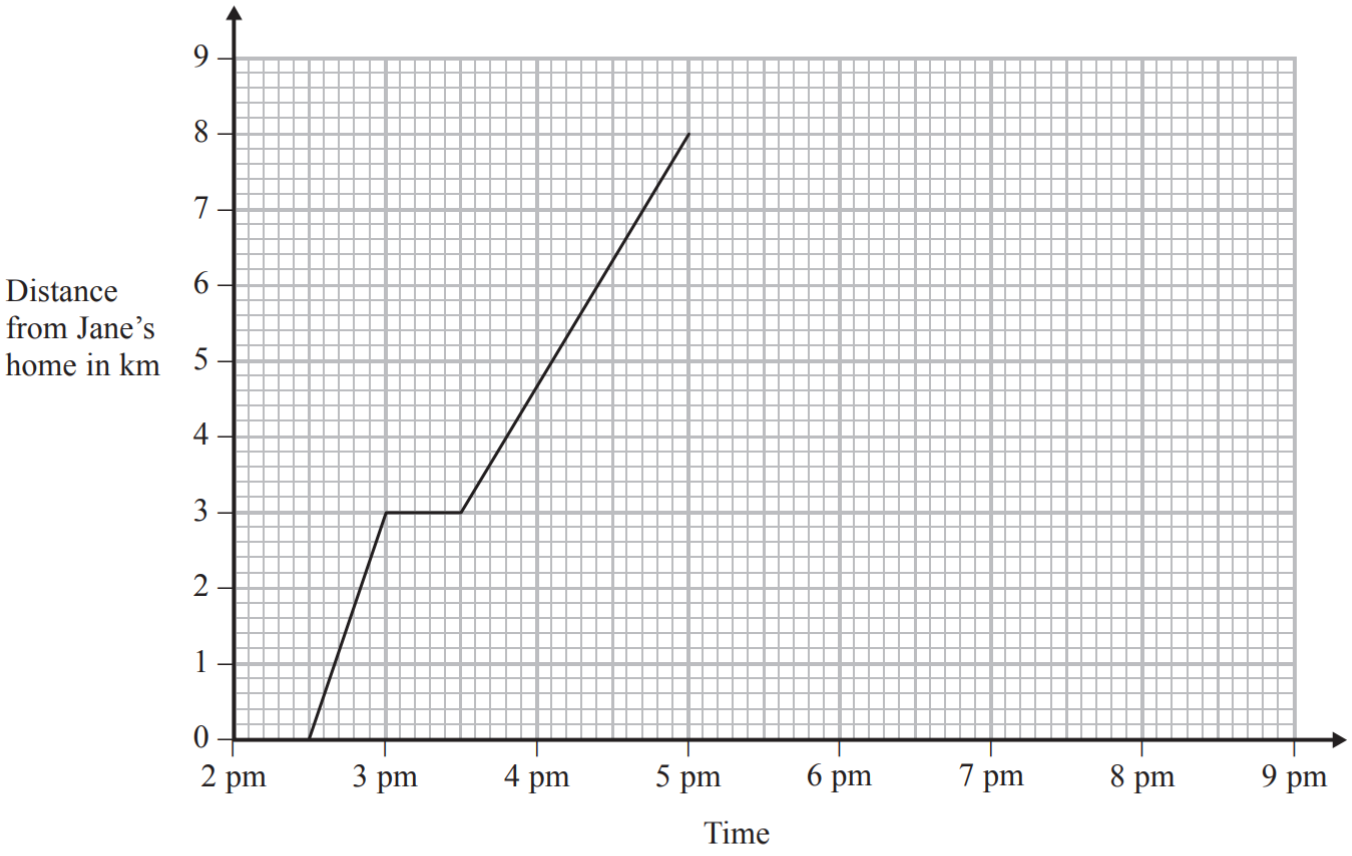
(b) Work out this greatest speed.

[1 mark]

Question 3

Jane walked from her home to the ice rink.

The travel graph for Jane's journey to the ice rink is shown below.



On the way to the ice rink Jane stopped at her friend's house.

(a) How far is it from her friend's house to the ice rink?

[1 mark]

Question 4

Jane was at the ice rink for 1 hour 30 minutes.
She then walked home at a steady speed.
Jane took 2 hours to walk home.

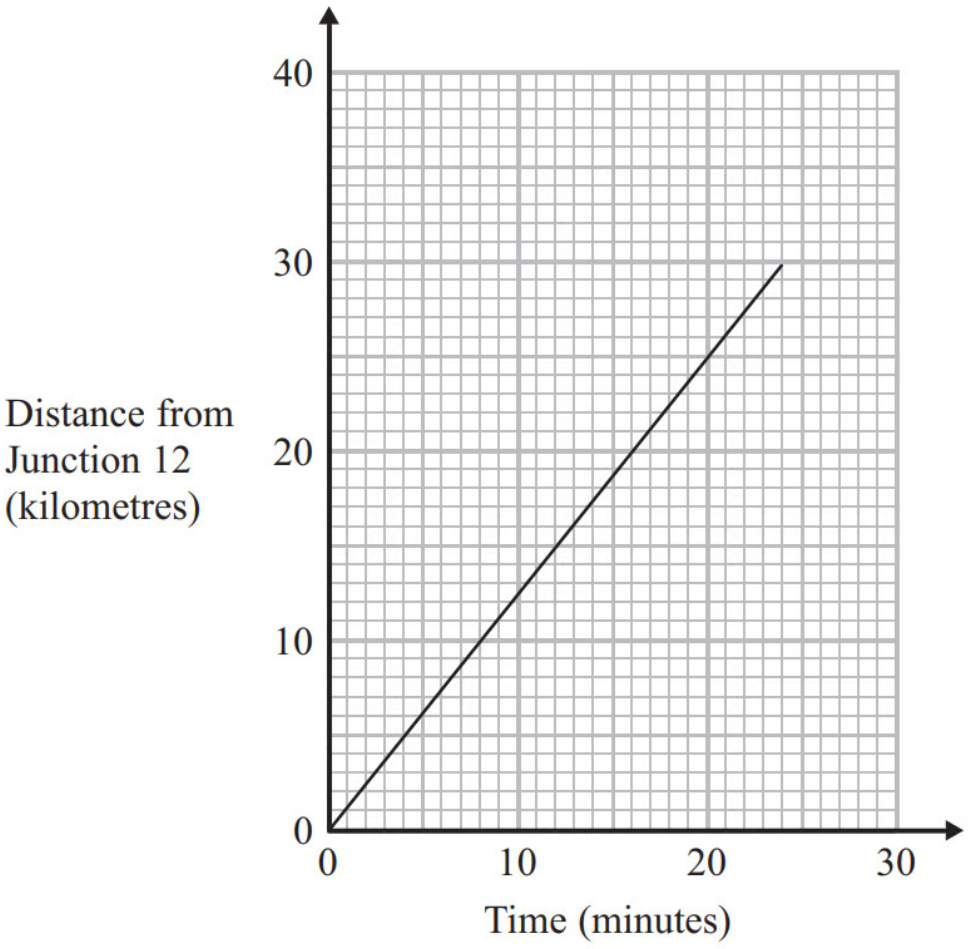
(b) Complete the travel graph for this information.

[2 marks]

Question 5

Debbie drove from Junction 12 to Junction 13 on a motorway.

The travel graph shows Debbie's journey.



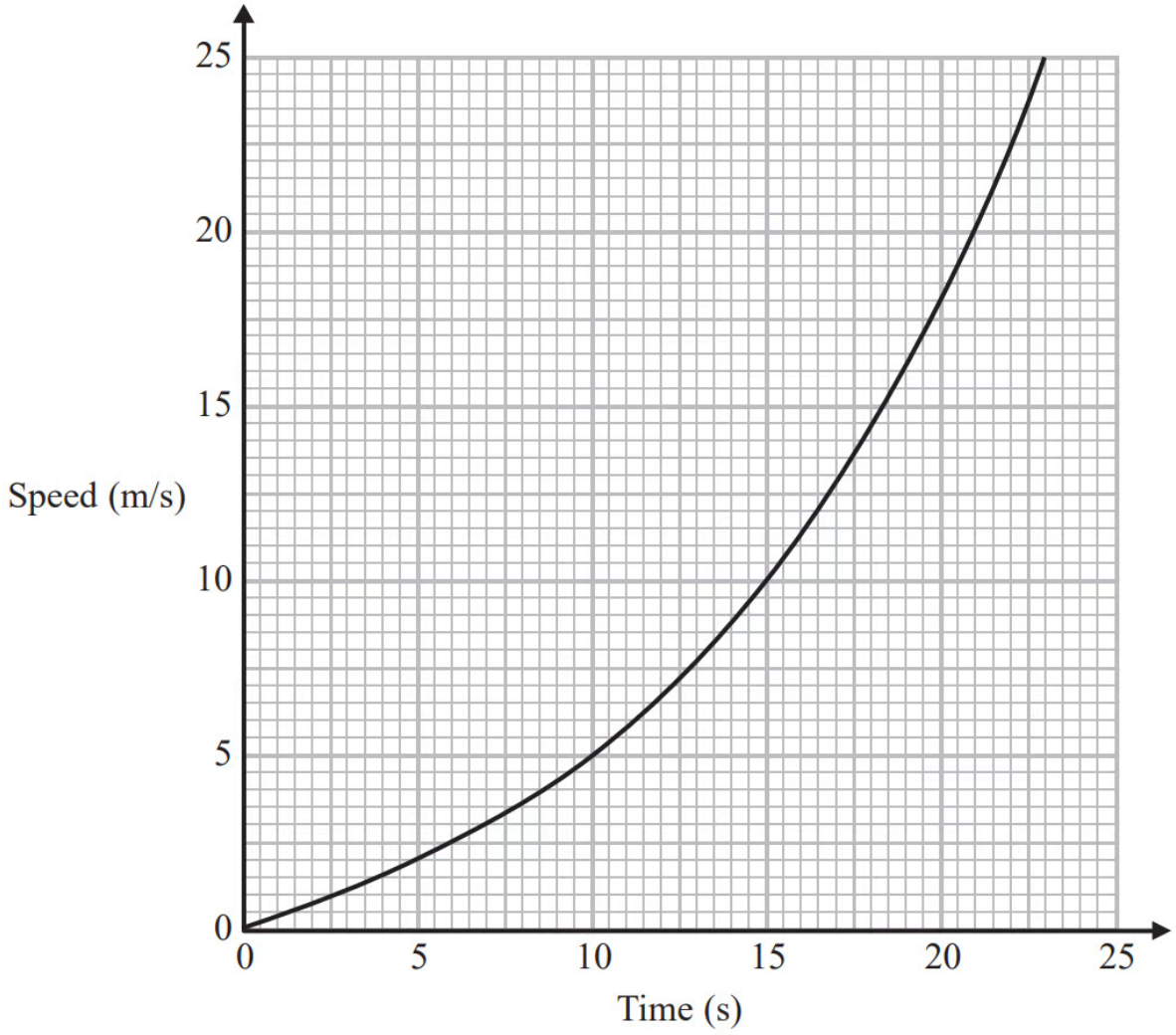
Ian also drove from Junction 12 to Junction 13 on the same motorway.
He drove at an average speed of 66 km/hour.

Who had the faster average speed, Debbie or Ian?
You must explain your answer.

[4 marks]

Question 6

Here is a speed-time graph for a train.

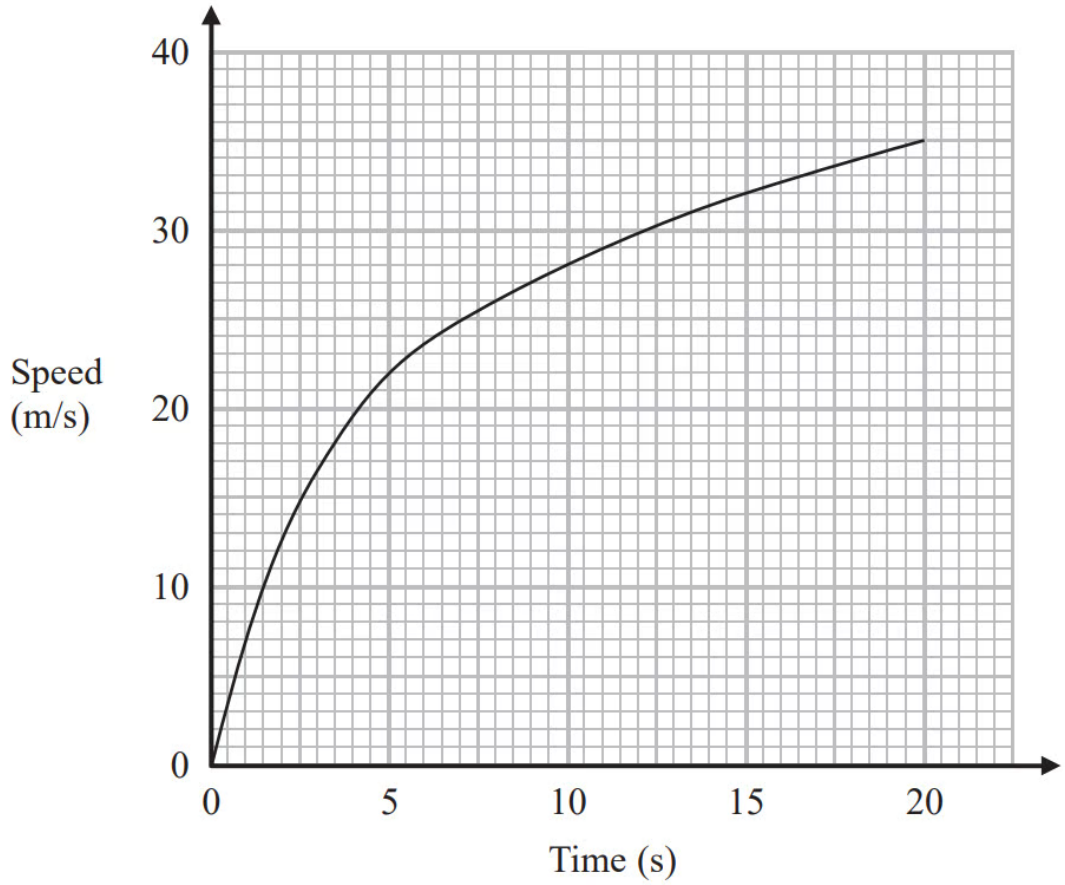


(a) Work out an estimate for the distance the train travelled in the first 20 seconds.
Use 4 strips of equal width.

[3 marks]

Question 7

The graph shows the speed of a car, in metres per second, during the first 20 seconds of a journey.

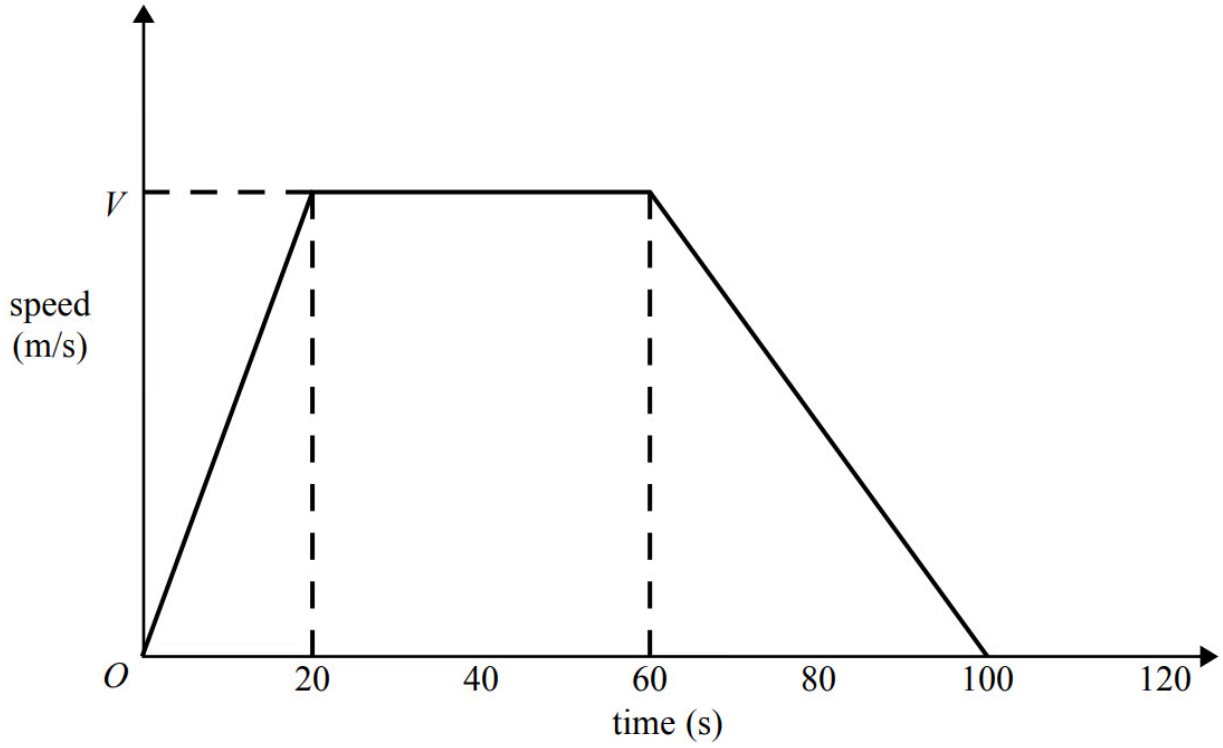


(a) Work out an estimate for the distance the car travelled in the first 20 seconds.
Use 4 strips of equal width.

[3 marks]

Question 8

Here is a speed-time graph for a car journey.
The journey took 100 seconds.



The car travelled 1.75 km in the 100 seconds.

(a) Work out the value of V.

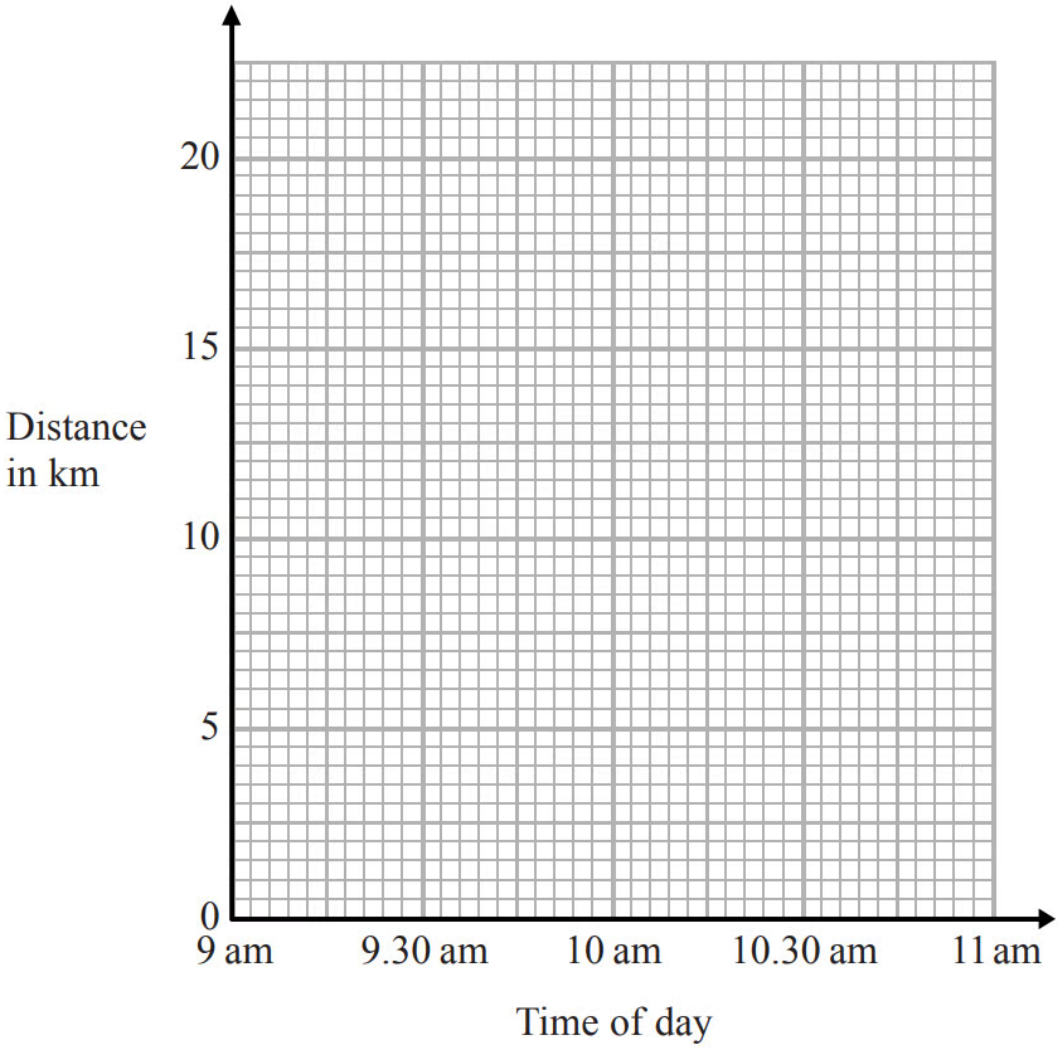
[3 marks]

Question 9

At 9 am, Bradley began a journey on his bicycle.

From 9 am to 9.36 am, he cycled at an average speed of 15 km/h.
From 9.36 am to 10.45 am, he cycled a further 8 km.

(a) Draw a travel graph to show Bradley's journey.



[3 marks]

Question 10

From 10.45 am to 11 am, Bradley cycled at an average speed of 18 km/h.

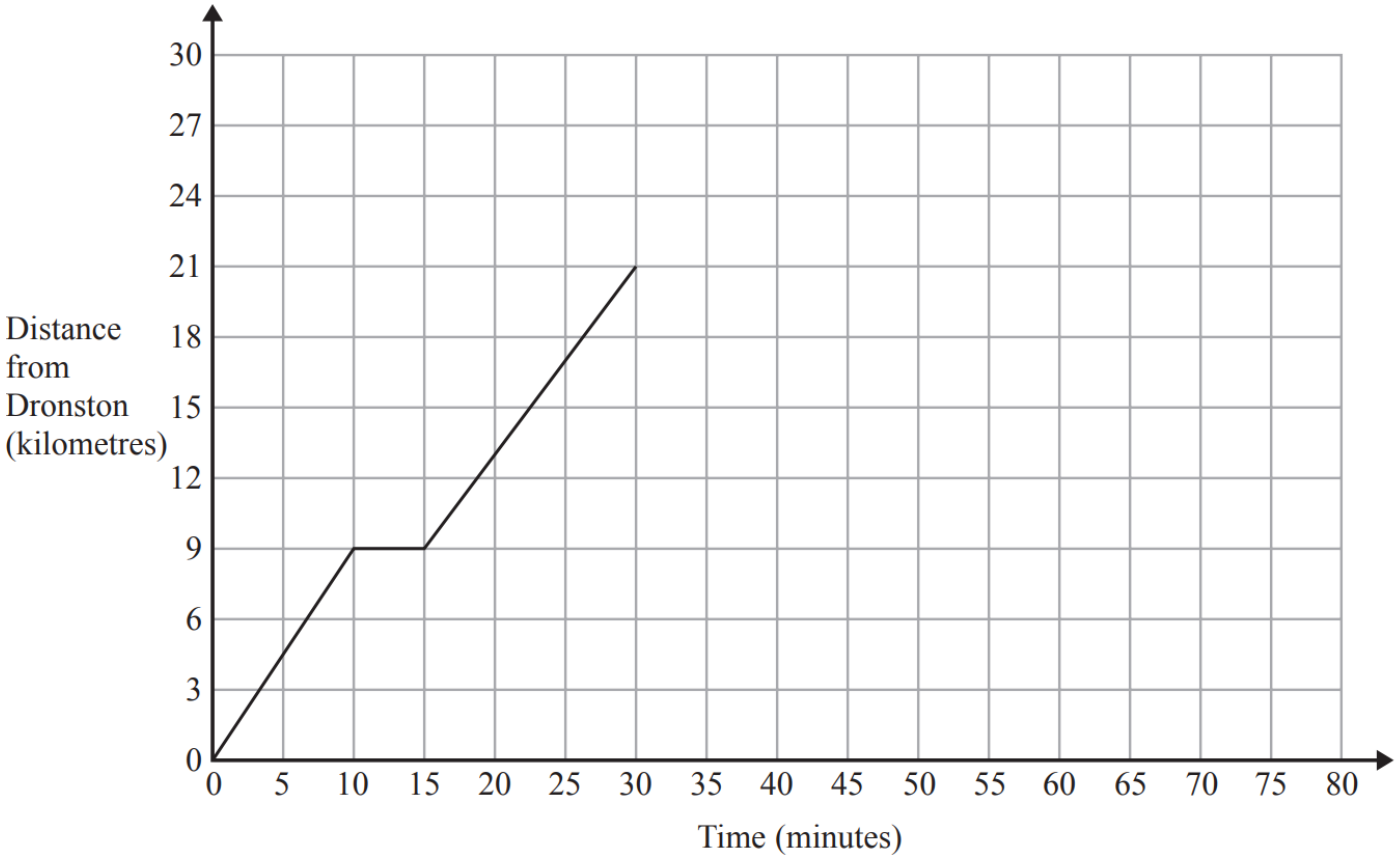
(b) Work out the distance Bradley cycled from 10.45 am to 11 am.

[2 marks]

Question 11

A coach travels from Dronston to Luscoe.

The travel graph for this journey is shown below.



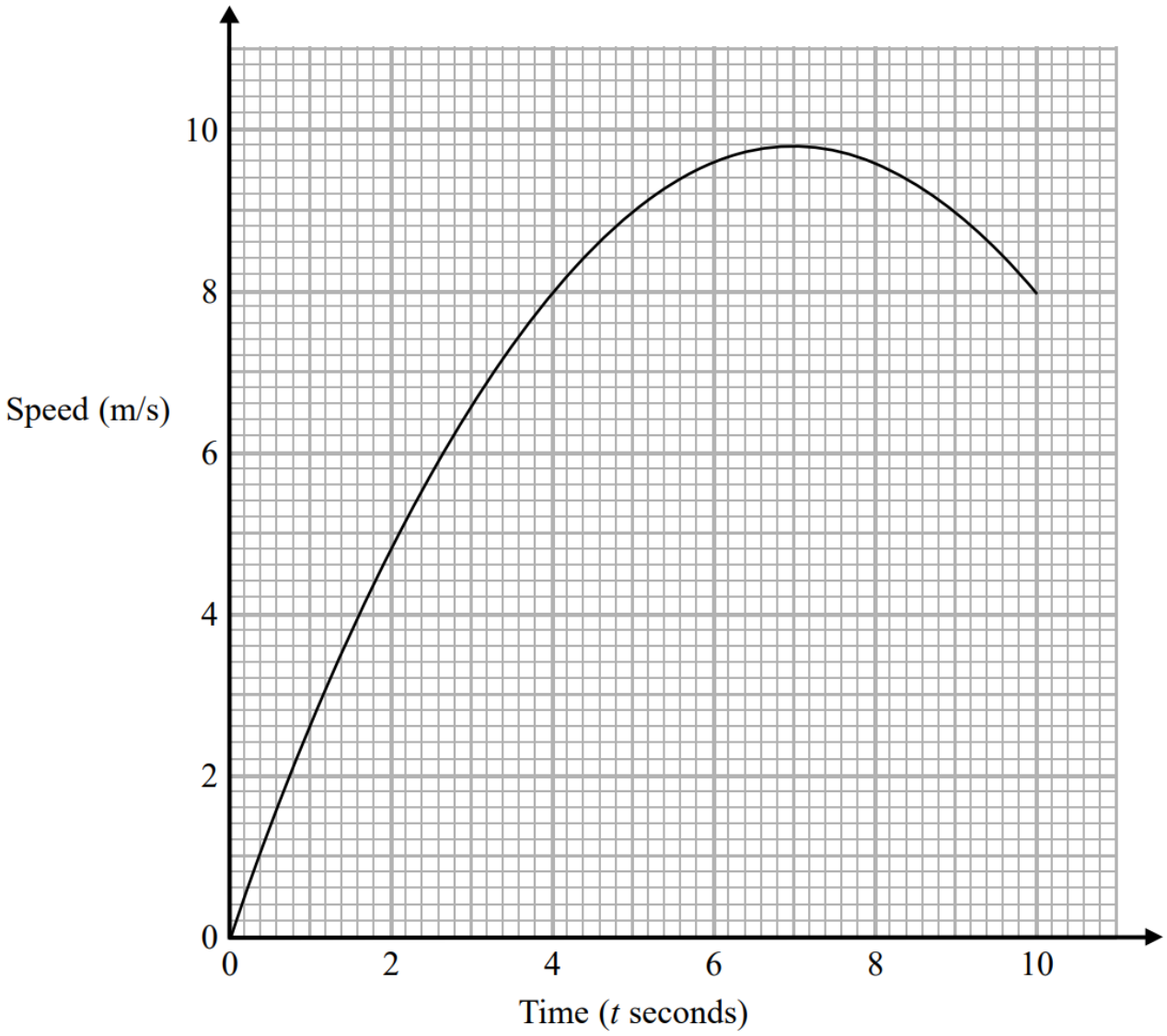
(a) Work out the average speed of the coach, in kilometres per hour, for the first 10 minutes of the journey.

[2 marks]

Question 12

Karol runs in a race.

The graph shows her speed, in metres per second, t seconds after the start of the race.

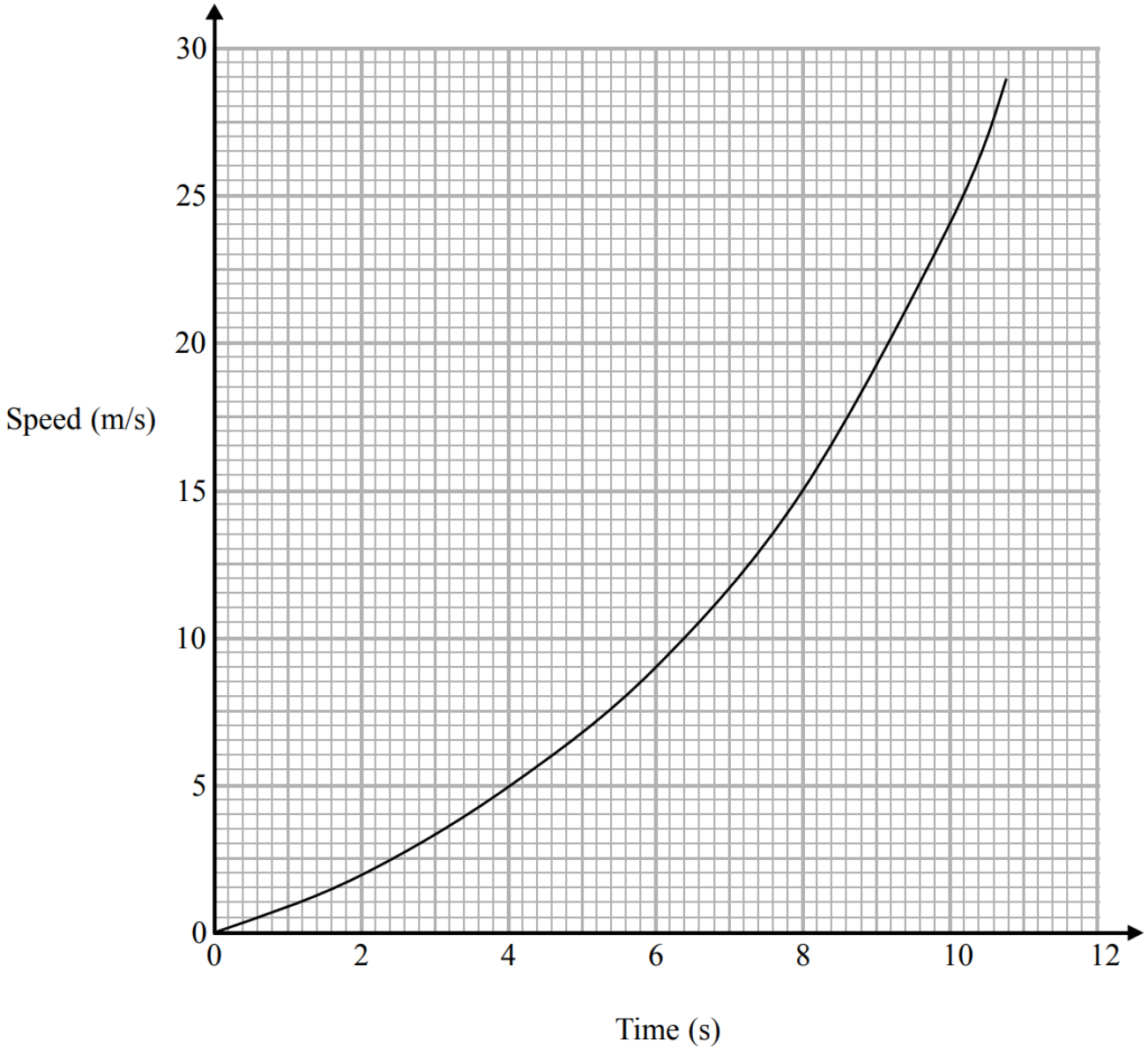


(a) Calculate an estimate for the gradient of the graph when $t = 4$
You must show how you get your answer.

[3 marks]

Question 13

Here is a speed-time graph for a car.

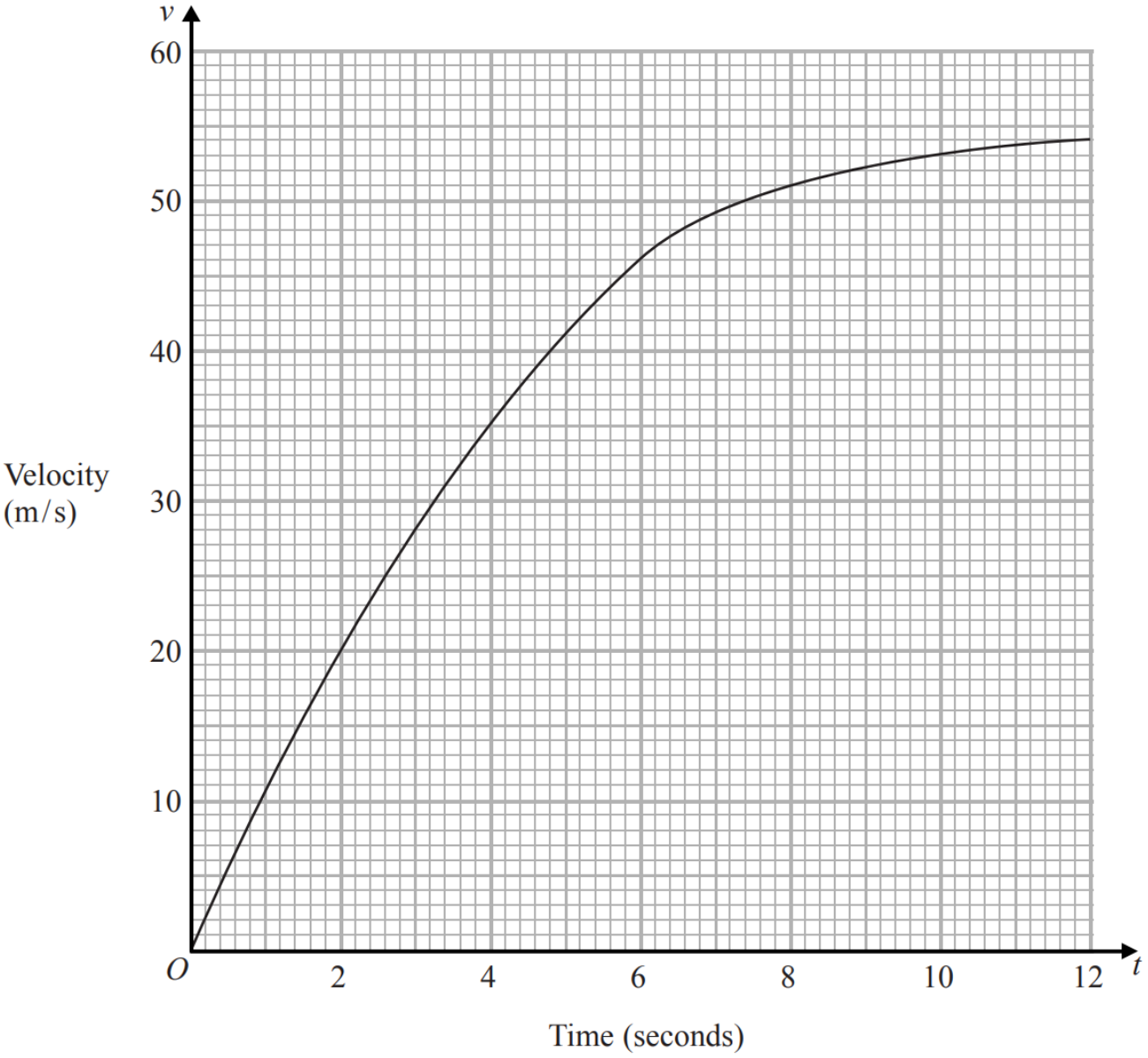


(a) Work out an estimate for the distance the car travelled in the first 10 seconds.
Use 5 strips of equal width.

[3 marks]

Question 14

The graph shows information about the velocity, v m/s, of a parachutist t seconds after leaving a plane.



(a) Work out an estimate for the acceleration of the parachutist at $t = 6$

[2 marks]

Question 15

(b) Work out an estimate for the distance fallen by the parachutist in the first 12 seconds after leaving the plane.
Use 3 strips of equal width.

[3 marks]