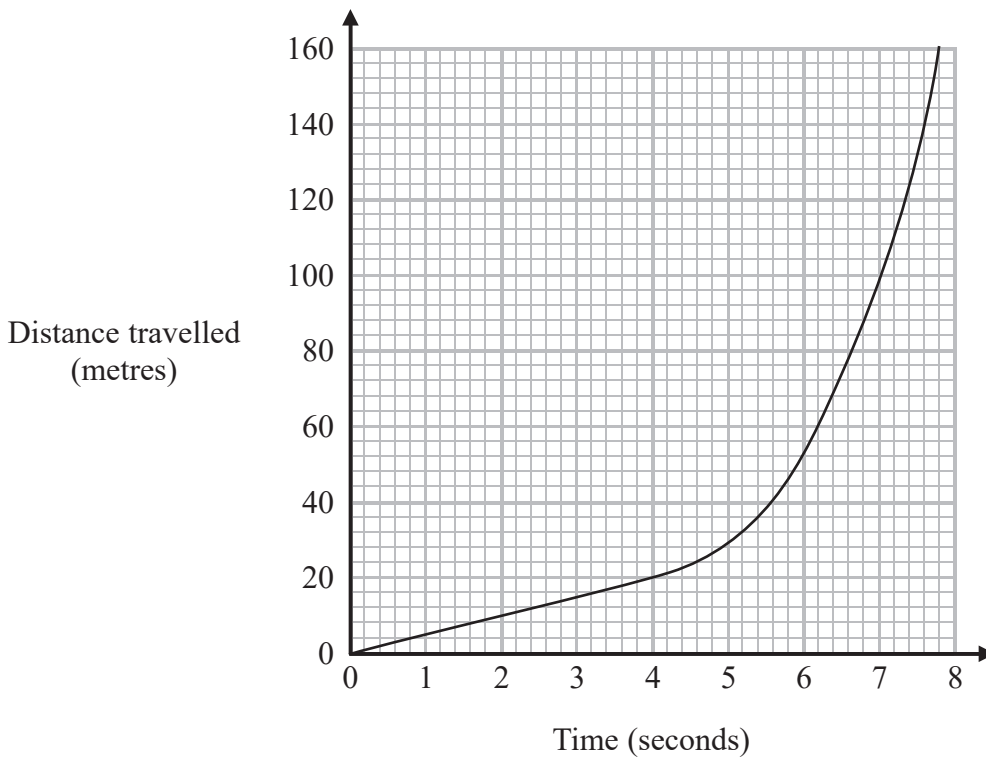


1 The distance-time graph shows information about part of a car journey.



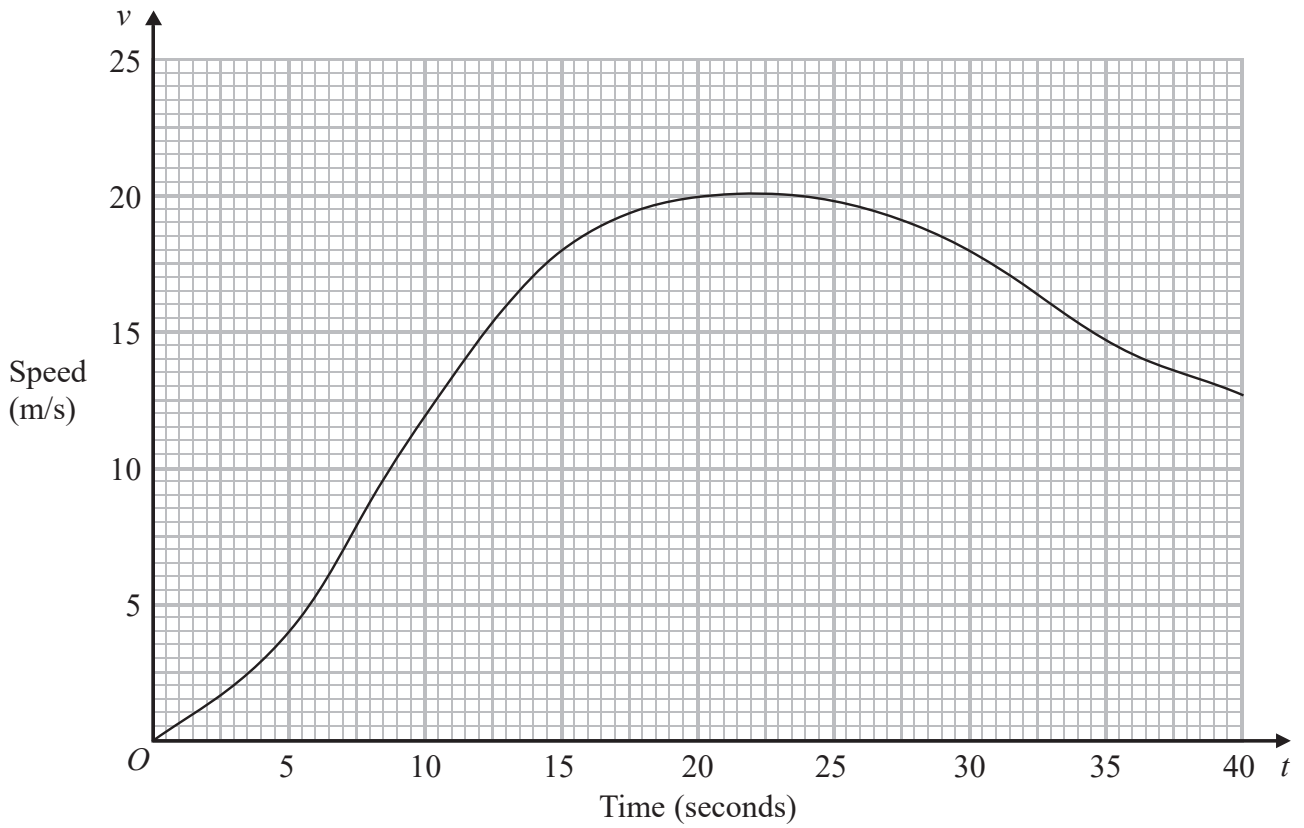
Use the graph to estimate the speed of the car at time 5 seconds.

..... m/s

**(Total for Question 1 is 3 marks)**

2 A car moves from rest.

The graph gives information about the speed,  $v$  metres per second, of the car  $t$  seconds after it starts to move.



(a) (i) Calculate an estimate of the gradient of the graph at  $t = 15$

.....  
(3)

(ii) Describe what your answer to part (i) represents.

.....  
(1)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



- (b) Work out an estimate for the distance the car travels in the first 20 seconds of its journey.  
Use 4 strips of equal width.

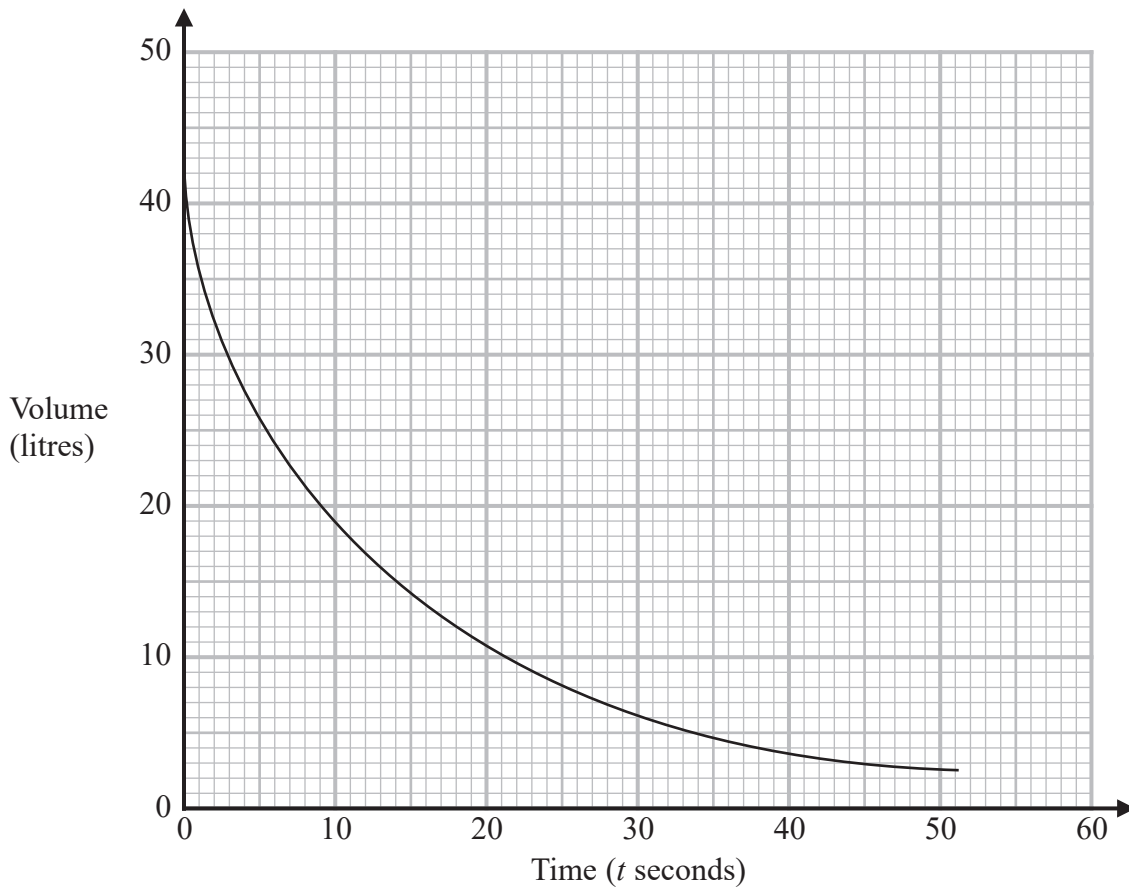
.....m

(3)

**(Total for Question 2 is 7 marks)**

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- 3 The graph gives the volume of water, in litres, in a container at time  $t$  seconds after the water started to flow out of the container.

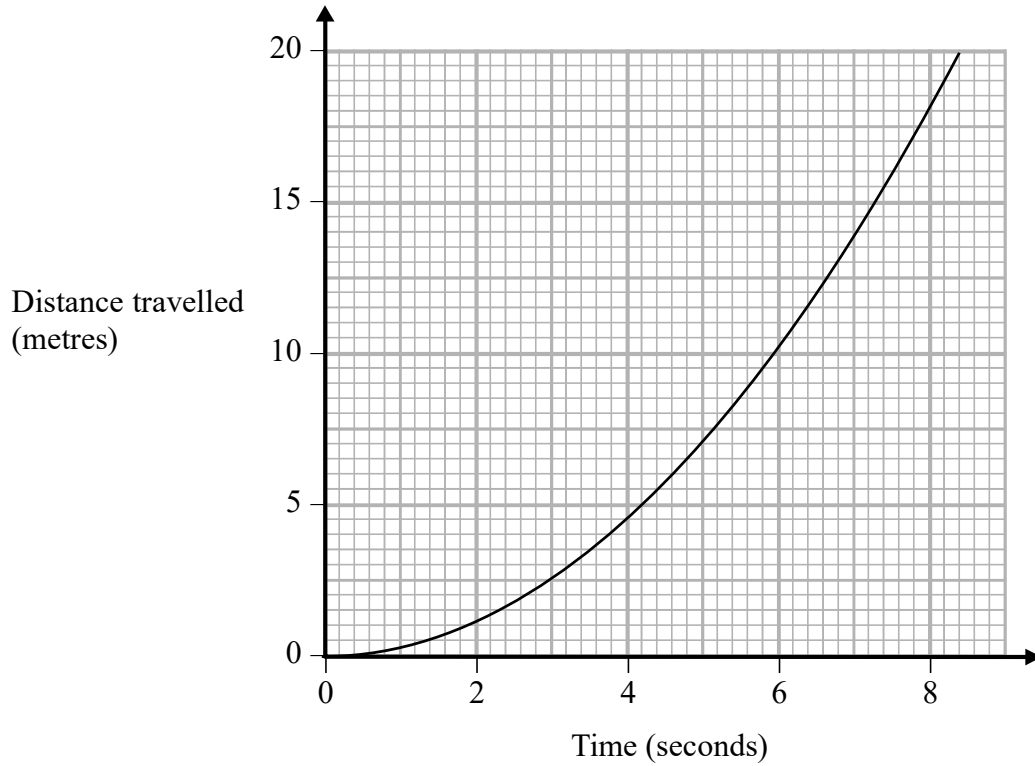


Using the graph, work out an estimate for the rate at which the water is flowing out of the container when  $t = 12$   
 You must show your working.

..... litres per second

**(Total for Question 3 is 3 marks)**

4 The graph shows information about part of a cyclist's journey.

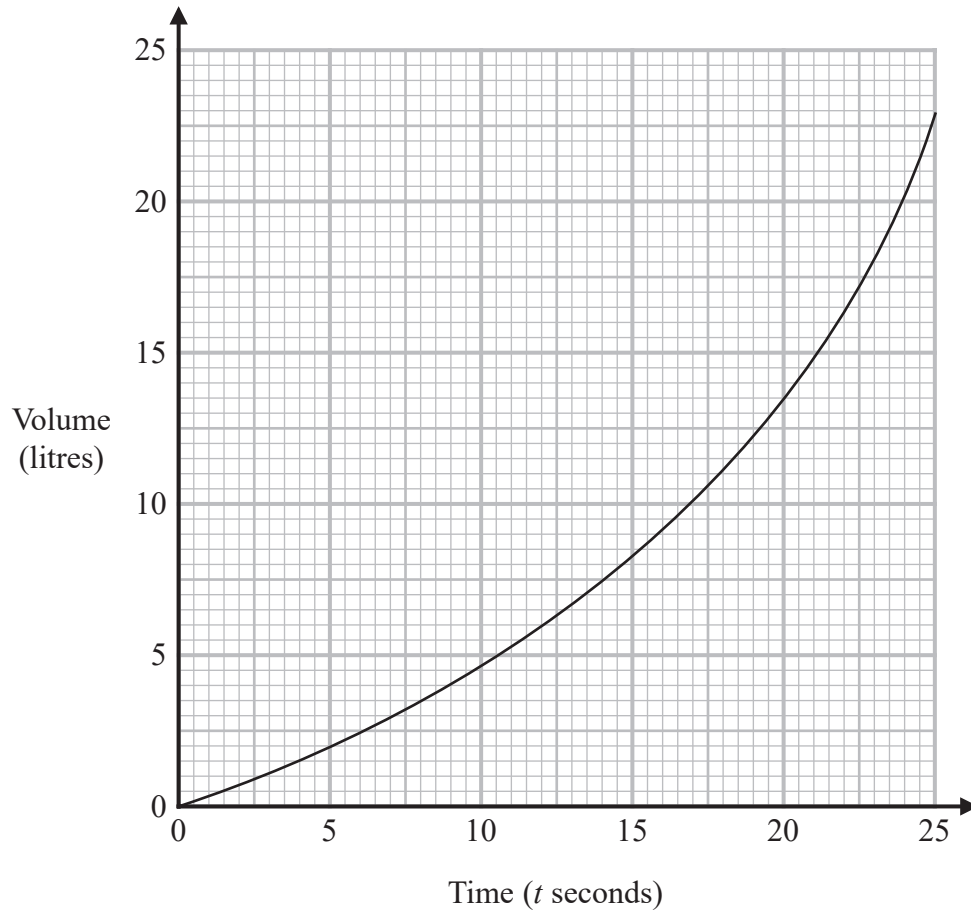


Work out an estimate of the speed, in m/s, of the cyclist at time 6 seconds.

..... m/s

**(Total for Question 4 is 3 marks)**

- 5 The graph below gives the volume, in litres, of water in a container  $t$  seconds after the water starts to fill the container.



- (a) Calculate an estimate for the gradient of the graph when  $t = 17.5$   
You must show how you get your answer.

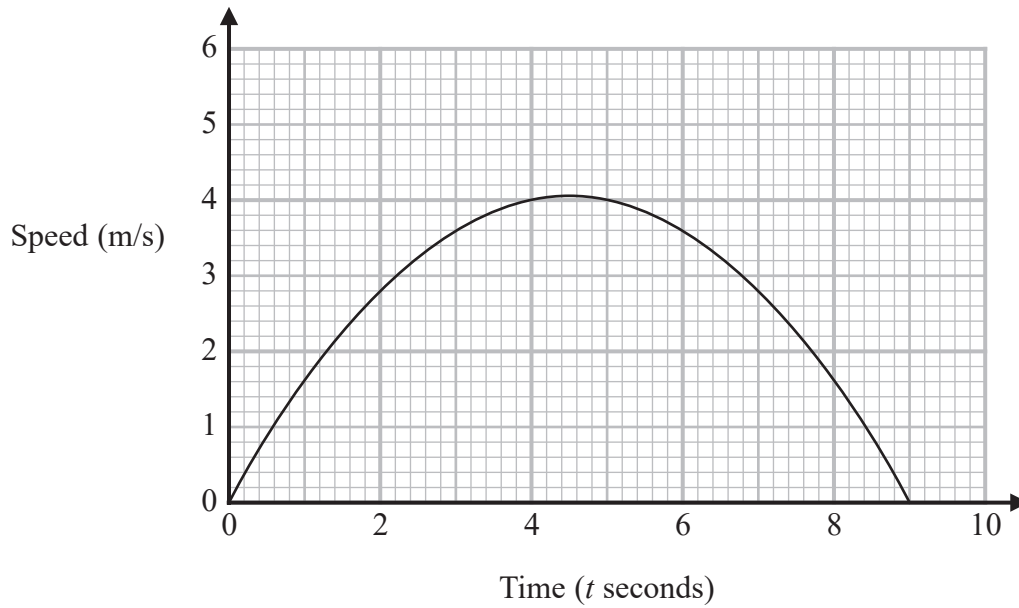
.....  
(3)

- (b) Describe fully what the gradient in part (a) represents.

.....  
.....  
.....  
(1)

(Total for Question 5 is 4 marks)

6 Here is a speed-time graph.



(a) Work out an estimate of the gradient of the graph at  $t = 2$

.....  
(3)

(b) What does the area under the graph represent?

.....  
.....  
(1)

(Total for Question 6 is 4 marks)