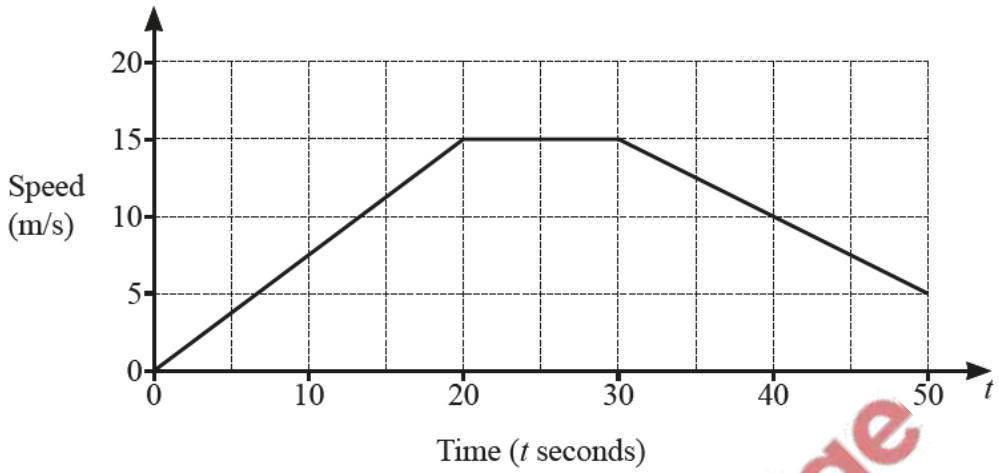
1. Nov/2021/Paper_12/No.14

The diagram shows the speed-time graph for the start of a cyclist's journey.



(a) Find the acceleration during the first 20 seconds.

..... m/s^2 [1]

(b) Describe the motion of the cyclist between $t = 20$ and $t = 30$.

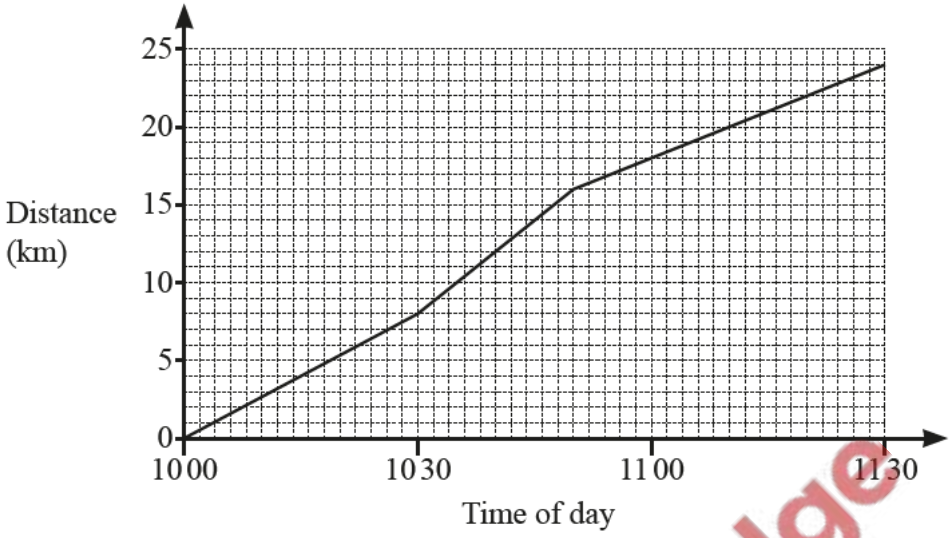
..... [1]

(c) Find the total distance travelled in the 50 seconds.

..... m [3]

2. June/2021/Paper_12/No.12

(a) Lara goes for a cycle ride.
The distance–time graph shows her journey.

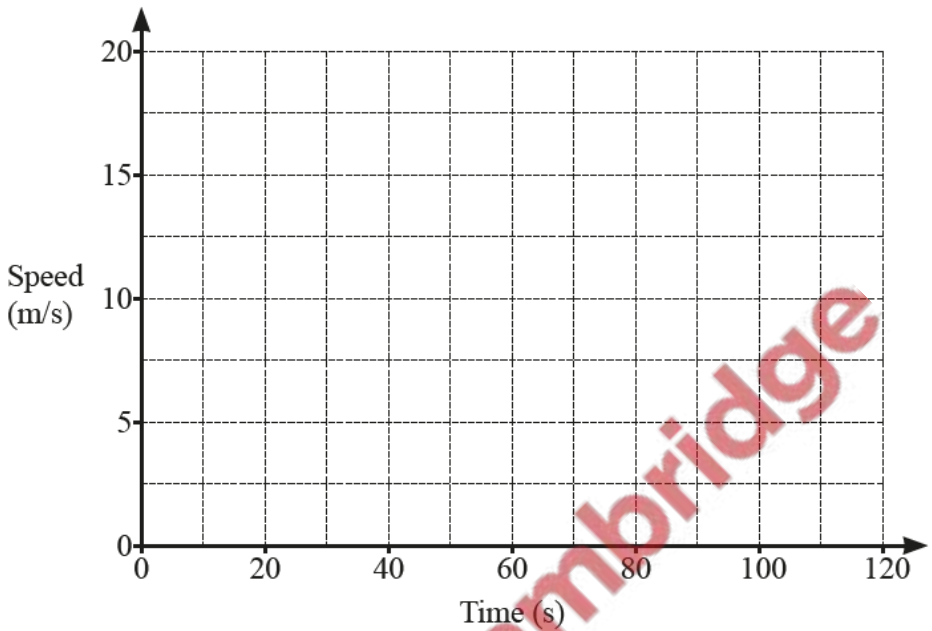


Calculate Lara's average speed, in kilometres per hour, for the whole journey.

..... km/h [3]

(b) A car travels at a constant speed of 10 m/s for 80 seconds.
It then decelerates at a constant rate of 0.5 m/s^2 until it stops.

On the grid, draw the speed–time graph for this journey.



[2]