



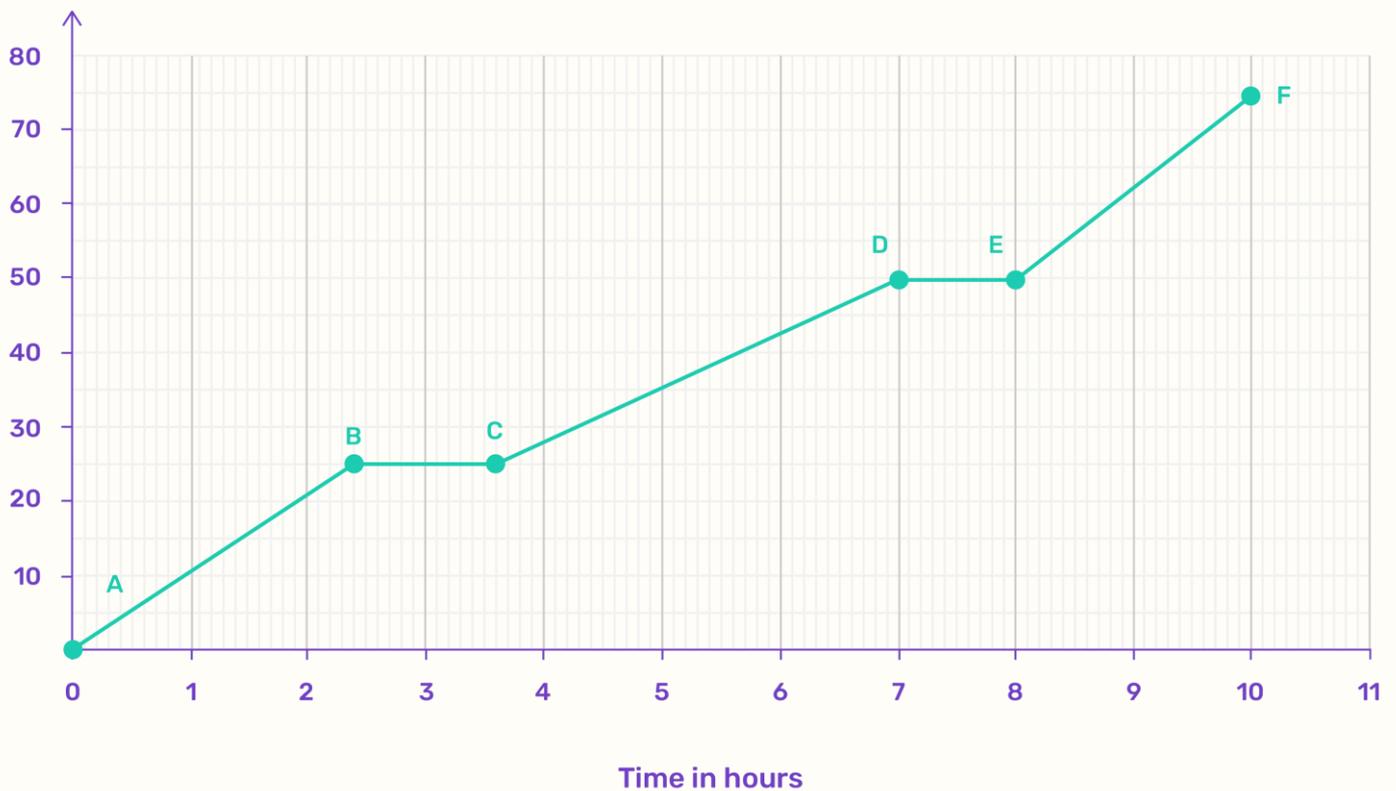
# Physics assessment activity – Answer sheet

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Total marks available 26

Len is a driver at Total Transport Limited. The distance time graph of his journey is shown below. His journey involved delivering goods to a customer.

Distance travelled by Len in miles



Question 1 - What is the formula Len would use to calculate the speed he was travelling at? [1 mark]

Speed = distance ÷ time

Question 2 - What is the formula Len would use to calculate how long his journey took? [1 mark]

Time = distance  $\div$  speed

Question 3 - Between which points on the graph was Len stopped for 1 hour? Place a cross next to the correct 2 points in the table below. [1 mark]

Points	Cross (✕)
A - B	
B-C	
C-D	
D-E	✕
E-F	

Question 4 - Suggest a reason why Len was stopped for 1 hours. [1 mark]

Diesel from petrol station / traffic jam / needed a break from driving

Question 5 - Between which 2 points was Len driving the fastest? Place a cross next to the correct 2 points in the table below. [1 mark]

Points	Cross (✕)
A - B	
B-C	
C-D	
D-E	
E-F	✕

Question 6 - How long did it take Len to get to his destination? [1 mark]

10 hours

Question 7 - How long was Len stopped for between points B and C? [2 marks]

1.2 hours

Question 8- How many miles did Len travel to his destination? [1 mark]

75

Question 9 - Calculate the speed Len was travelling at between points C and D. Include units in your answer. [3 marks]

Time taken = 3.4 hours    Distance = 25 = 1 mark

Speed =  $25/3.4 = 1$  mark

7.35/7.4 mph = 1 mark

Question 10 - What was Len's average speed for his journey? Include units in your answer. [3 marks]

Time taken = 10 hours    Distance = 75 = 1 mark

Speed =  $75/10 = 1$  mark

7.5mph = 1 mark

Question 11 – How far had Len travelled after 7 hours? [1 mark]

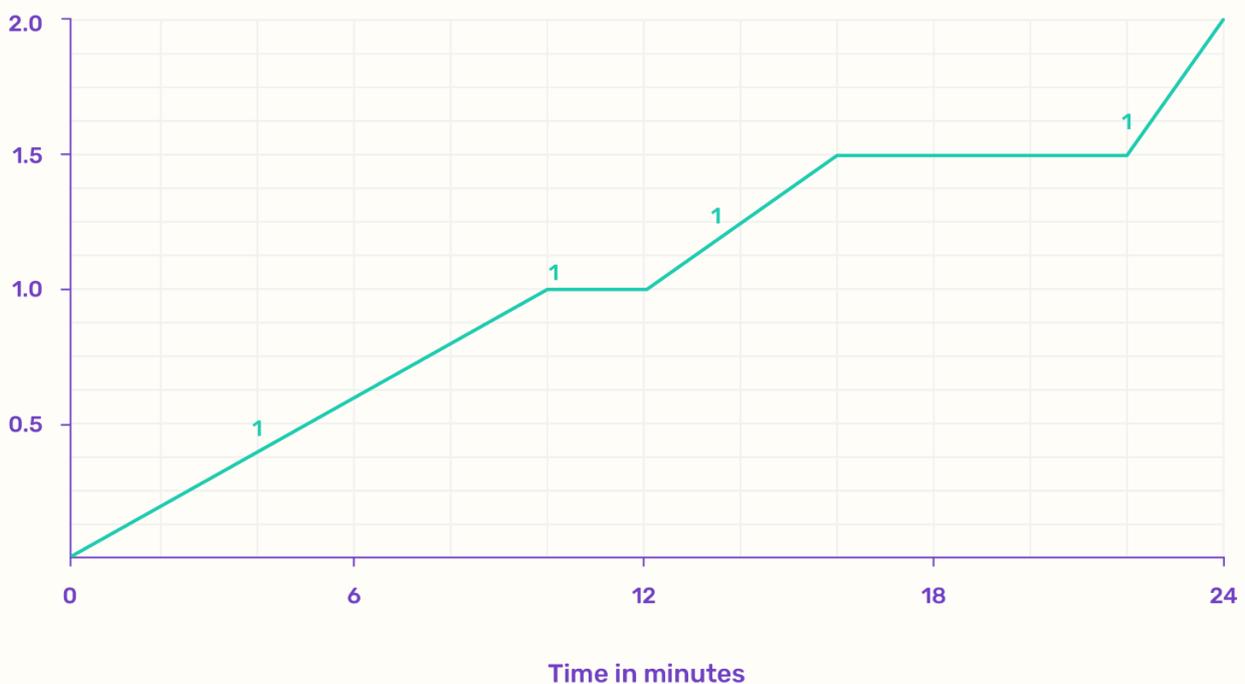
50 miles

Len always walks to work at Total Transport Ltd. Read the description of Len's journey to work.

"I set off and walked for 1 mile which took me 10 minutes. Then I had to stop at a pedestrian crossing for 2 minutes. I carried on for half a mile which took me 4 more minutes when I saw a friend and so stopped for a chat for 6 minutes. After that, I was worried I would be late for work, so I ran until I arrived."

Question 12 - On the outline of the graph below, draw Len's journey. [5 marks - 1 mark for each correct line]

Distance / miles



Question 13 – How long does Len’s journey take him? [1 mark]

24 minutes

Question 14 – How far away from work does Len live? [1 mark]

2 miles

Question 15 – What distance did Len travel in the last 2 minutes of his journey? [1 mark]

0.5 miles

Question 16 – How fast was Len travelling in mph in the last 2 minutes of his journey? [2 marks]

$0.5/2 = 0.25$  miles per minute  $\times 60$  to get miles per hour = 15 mph

