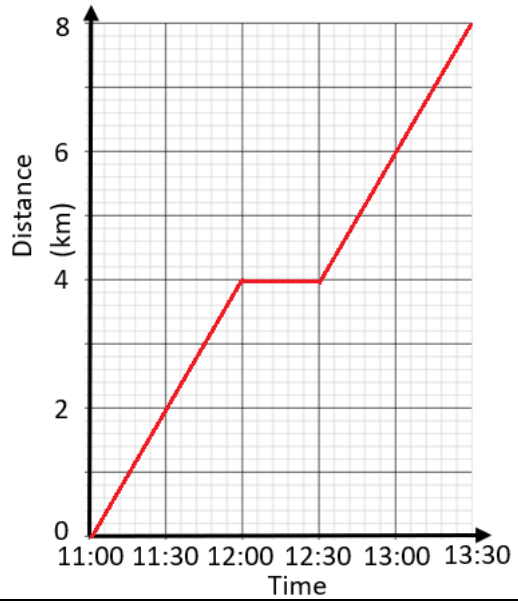
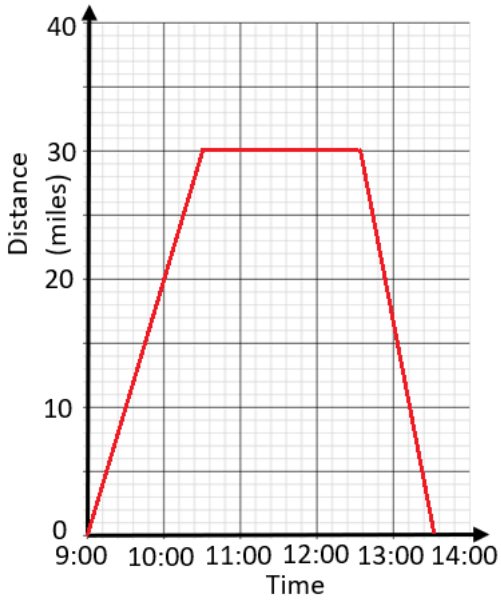
Higher	√

MITCHELL MATHS

Distance-Time Graphs

Question 1 Katie travels to her aunties house from her home. She sets of at 11am. She walks to the park which is 4km from her home. This takes her 1 hour. She stays at the park for 30 minutes. She then continues from the park to her aunties house. She walks at an average speed of 4 km/hr and arrives at her aunties house at 13:30. a. Complete the distance-time graph.	
Question 2 Derek is travelling to a meeting 30 minutes away. It is snowing. He sets off at 9:00am and travels at a constant speed of 20 miles per hour. He spends 2 hours at the meetings. It has stopped snowing after the meeting. He travels home at an average speed of 30 mph. a. Complete the distance-time graph	

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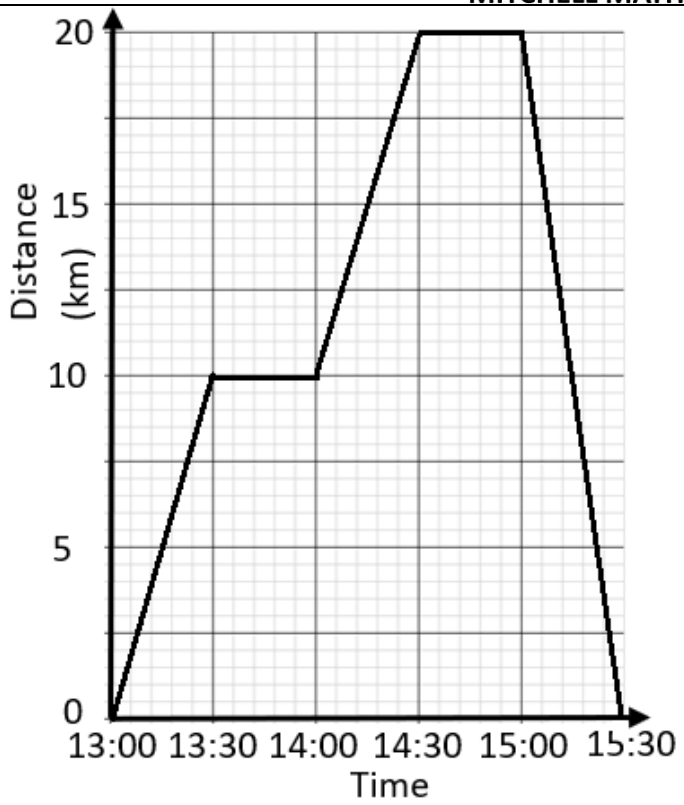
Question 3

The graph shows the distance-time graph of a safari tour.

a. Between what times was the safari stationary?
13:30 – 14:00
14:30 – 15:00

b. What was the average speed of the safari after 15:00?
40 mph

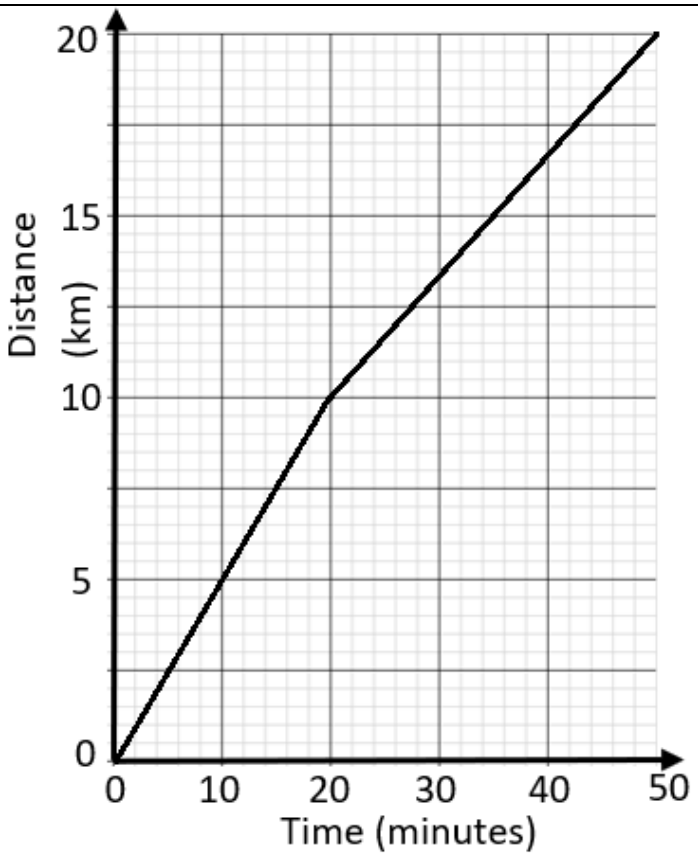


Question 4

The distance-time graph shows the speed of the cyclist over a 20km race. He travels at a constant speed for the first 10km and then slows down over the second 10km.

a. Calculate the average speed of the cyclist over the whole race.
241km/hr

b. Calculate the difference in the speed of the cyclist over the first half and second half of the race.
10km/hr



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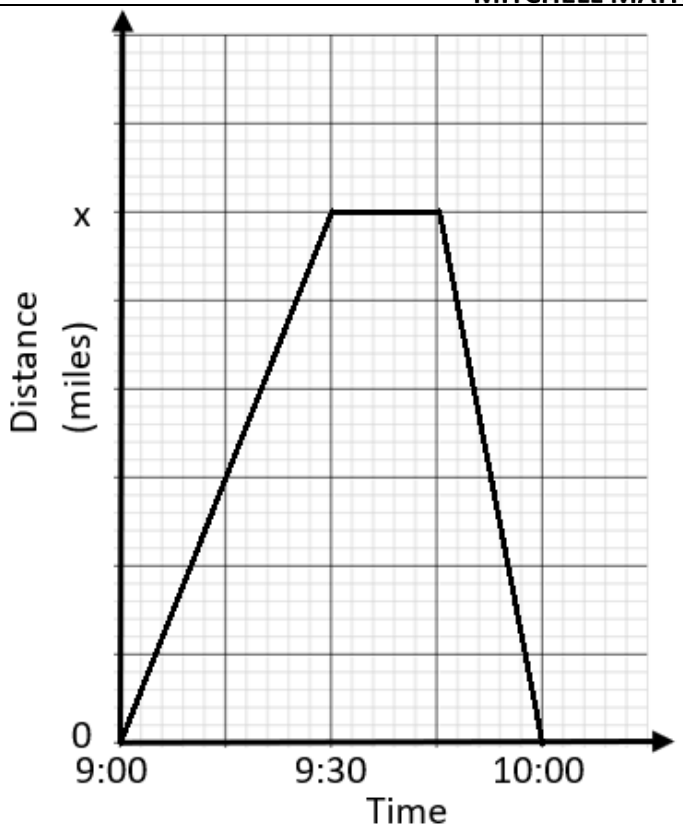
Question 5

Samantha needs to change a tyre on her car so she drives to the nearest garage. Once the tyre is change she travels home at 60mph.

a. How long did Samantha spend at the garage getting her tyre changed?
15 minutes

b. Calculate the value of x.
15

c. Calculate her speed on the way to the garage.
30mph

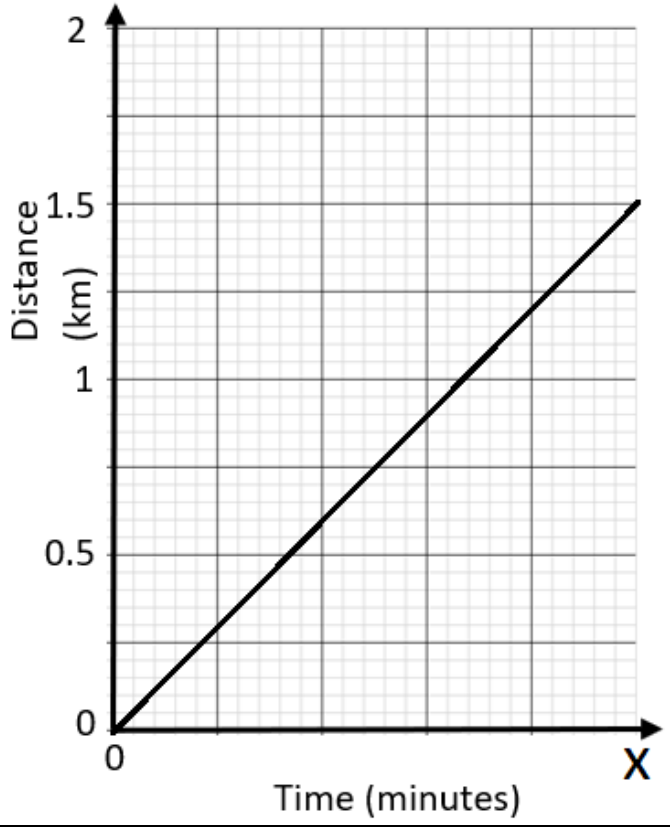


Question 6

The distance-time graph shows a person running 1.5km. The person runs at a rate of 18 km/hr.

a. Find the value of x.
x = 5

b. If the runner continues at the same pace calculate the time it would take them to complete 6km.
20 minutes



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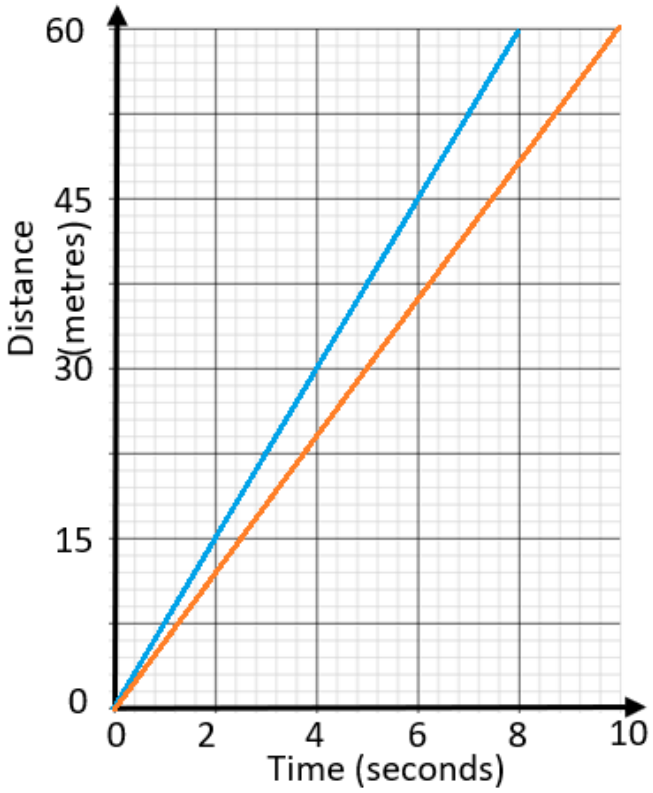
Question 7

The distance-time graph shows the time it takes two runners to sprint 60m. George is shown in blue and William is shown in orange.

a. Which of the sprinters finished first?
George

b. What was the difference in time between the two sprinters?
2 seconds

c. What average speed did George sprint at?
7.5 m/s



Question 8

The graph shows a test a company carried out on a solar powered vehicle.

a. Describe the motion of the vehicle during the test.
The vehicle was very fast between 11:00-11:30. It then travelled more slowly between 11:30-12:20. The vehicle travelled faster 12:30-13:30.

b. Calculate the maximum speed the vehicle reached during the test.
80km/hr

c. Calculate the difference between the maximum and minimum speed.
70km/hr