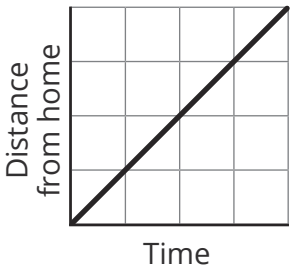
Plotting and Interpreting Distance-Time Graphs **Answers**

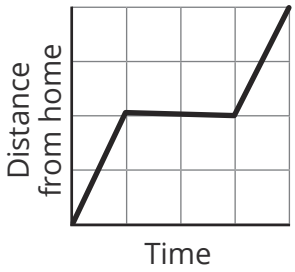
1. Each sentence in the table describes one of the graphs shown below. Write the letter of the correct graph next to each sentence.

Leave home and travel at a constant speed.	**A**
Leave home, travel at a constant speed, stop for a short time and then return home.	**D**
Leave home, travel to destination and immediately return.	**C**
Leave home, travel at a constant speed, stop for some time and then continue journey away from home.	**B**

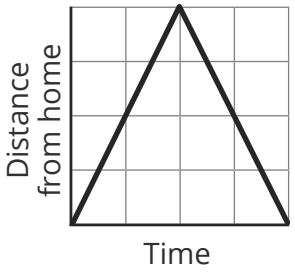
Graph A



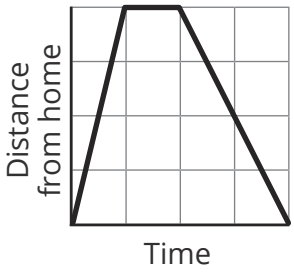
Graph B



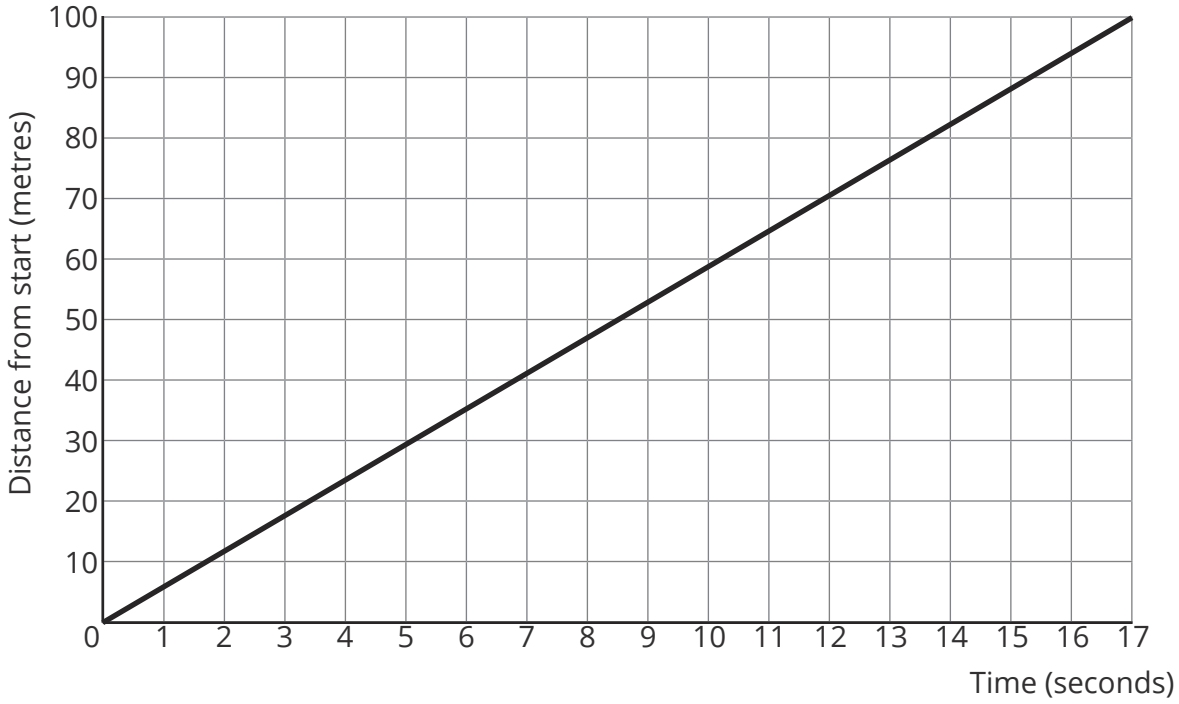
Graph C



Graph D



2. The distance-time graph shows an athlete's 100 metre race.



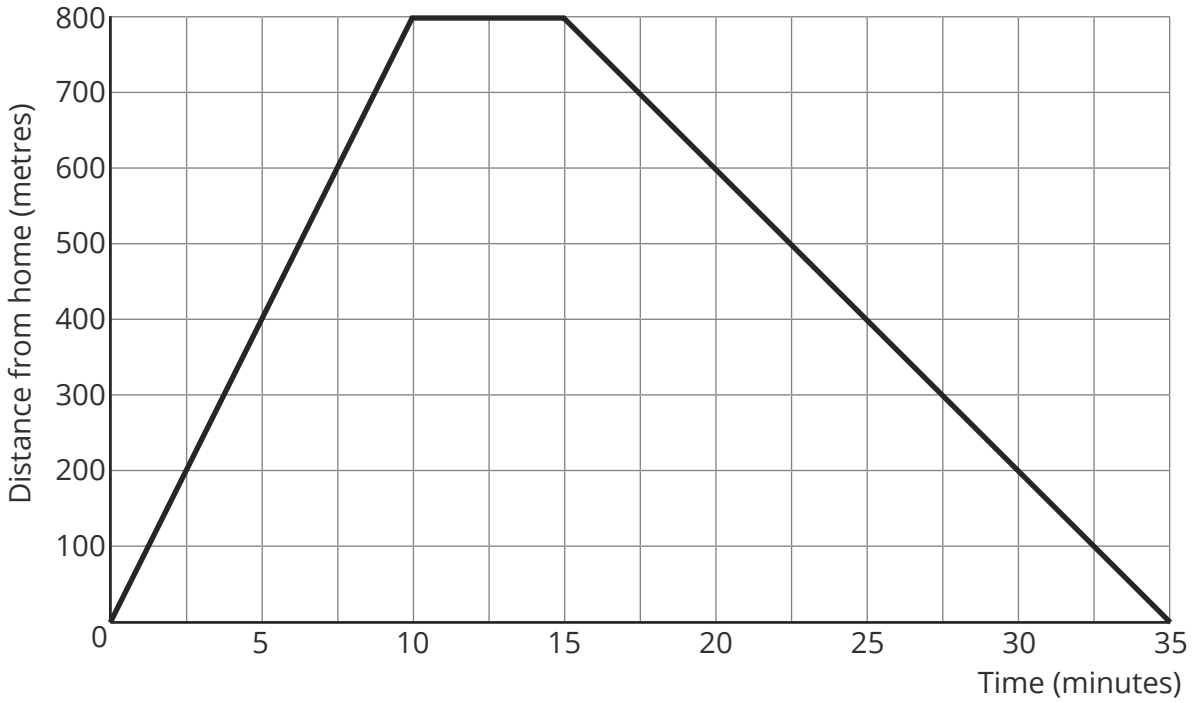
a. How long did it take the athlete to run 100 metres?

17 seconds

b. Approximately how far had the athlete run after 5 seconds?

30 metres

3. Aliyah goes to the shop for her Grandmother. The distance-time graph shows Aliyah's journey.



a. How far away is the shop?

800 metres

b. How long did it take Aliyah to get to the shop?

10 minutes

c. How long did Aliyah spend inside the shop?

5 minutes

d. How many minutes did Aliyah's return journey take?

35 – 15 = 20 minutes

e. What is the total distance Aliyah had covered after 30 minutes?

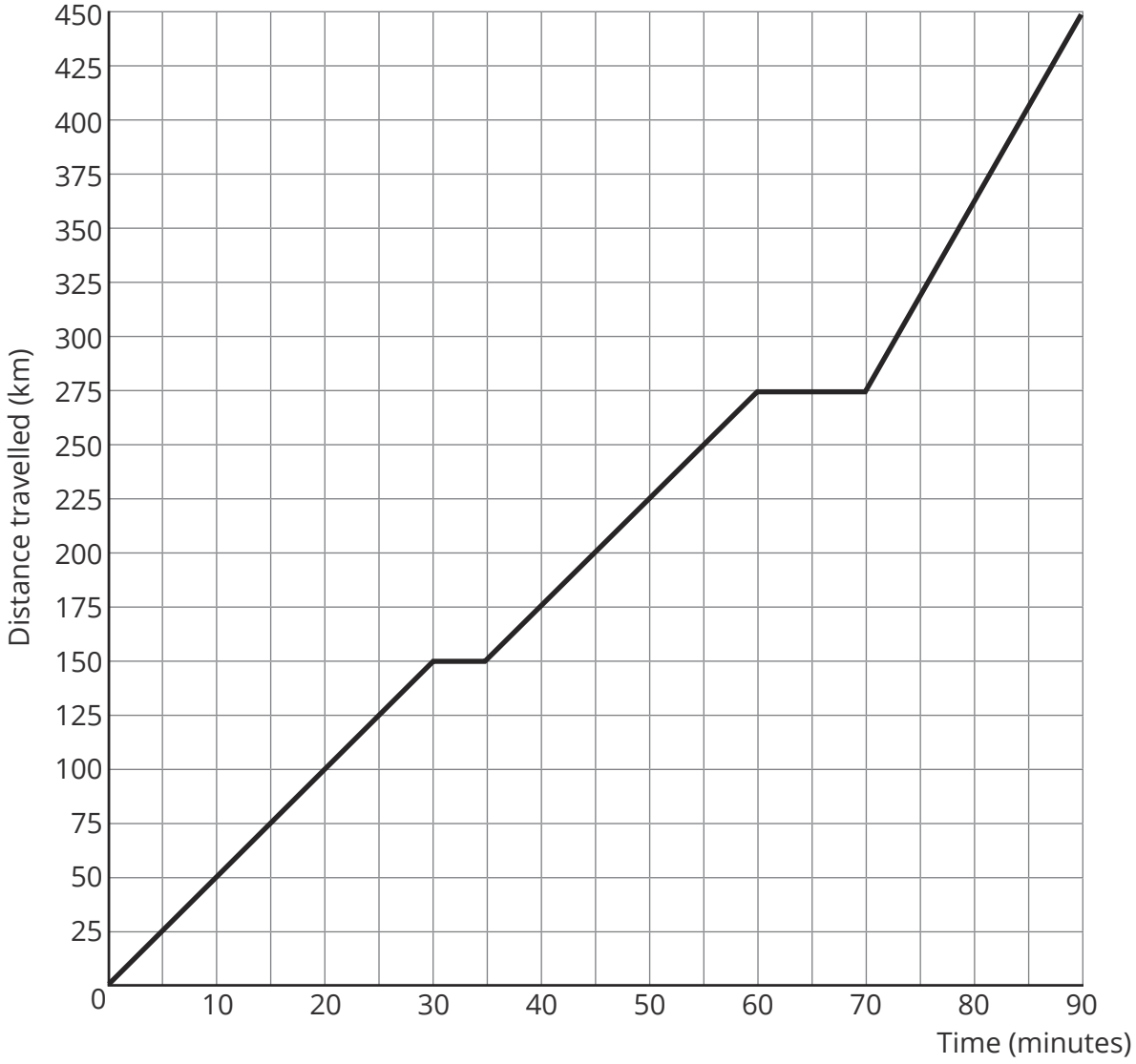
800 + 600 = 1400 metres

f. Was Aliyah faster going to the shop or coming back? Explain how you know.

Aliyah was faster going to the shop.

It only took 10 minutes to get there but it took 20 minutes to get back. The graph is also steeper when travelling to the shop which shows that Aliyah was quicker on the outward journey as opposed to the return journey.

4. The distance-time graph shows 90 minutes of a high-speed train's journey.



a. How far did the train travel in the first 30 minutes?

150km

b. How long was the train stationary for at its first stop?

5 minutes

c. How many minutes did the train travel for in between the two stops?

60 – 35 = 25 minutes

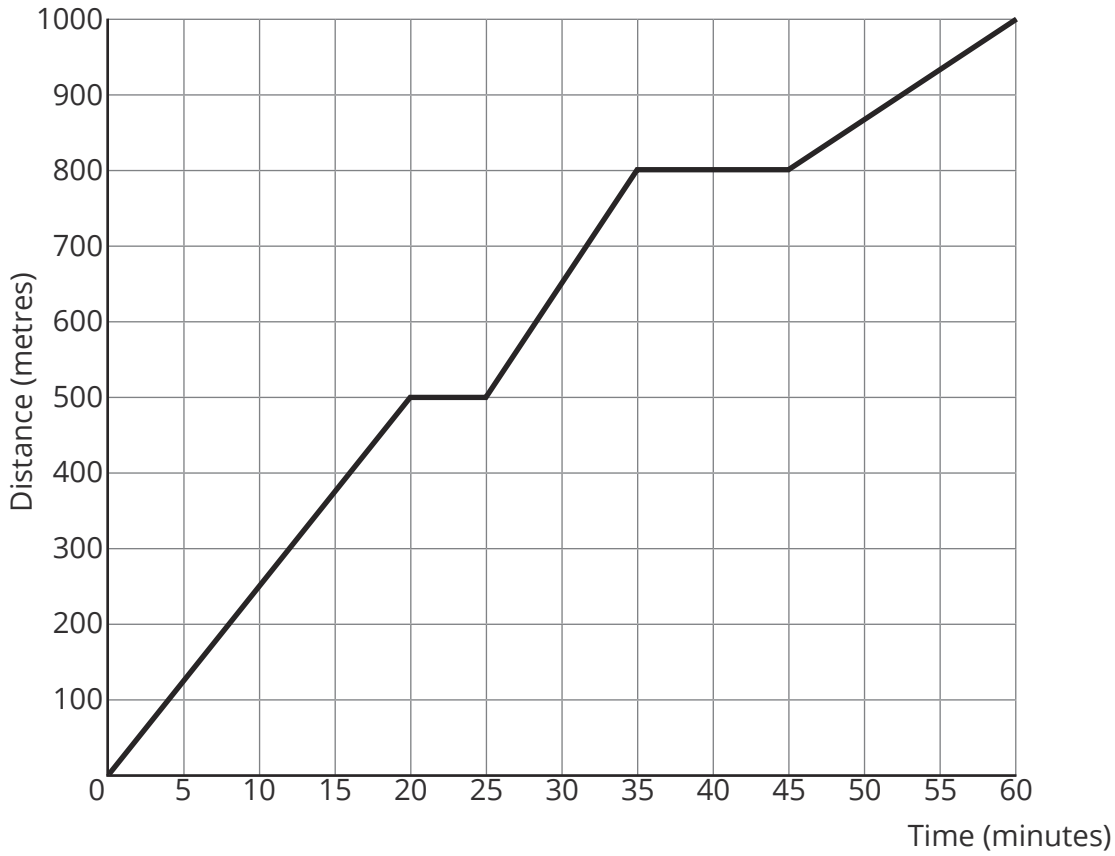
d. How far did the train travel in these 90 minutes of its journey?

450km

e. How far did the train travel in the last 20 minutes?

450 – 275 = 175km

5. The distance-time graph shows how long it took Remi to swim 1000 metres.



a. How long did it take Remi to swim 1000 metres?

60 minutes

b. After how many metres did Remi take their first break?

500 metres

c. How long was Remi's second break?

10 minutes

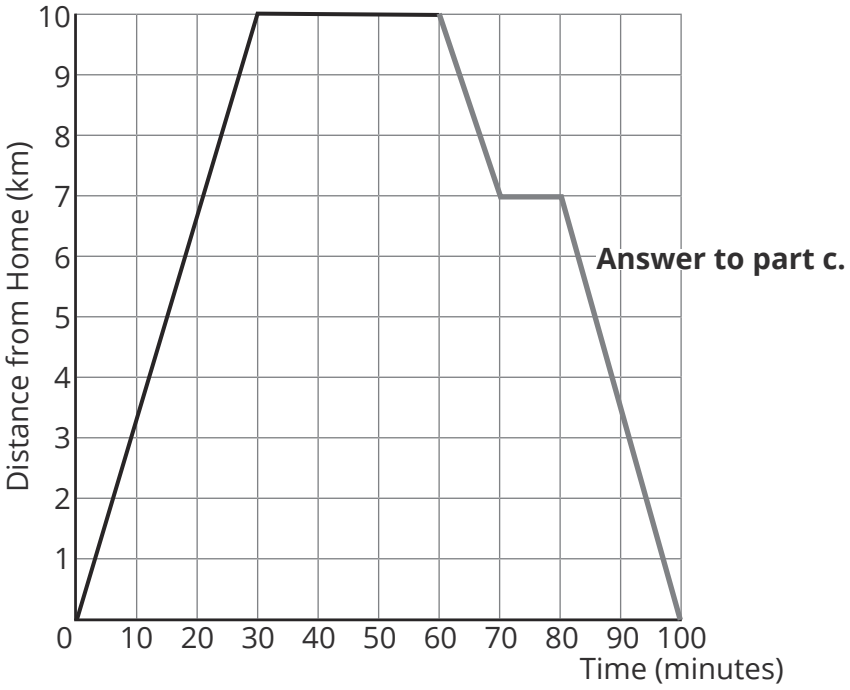
d. How many metres did Remi swim in the final 15 minutes?

1000 – 800 = 200 metres

e. Describe Remi's swimming journey.

Remi swam 500 metres in 20 minutes, rested for 5 minutes, swam a further 300 metres in 10 minutes, rested for a further 10 minutes and then swam the final 200 metres in 15 minutes.

6. The distance-time graph shows some information about Yusuf's bike ride.



a. How many kilometres did Yusuf travel in the first 30 minutes?

10km

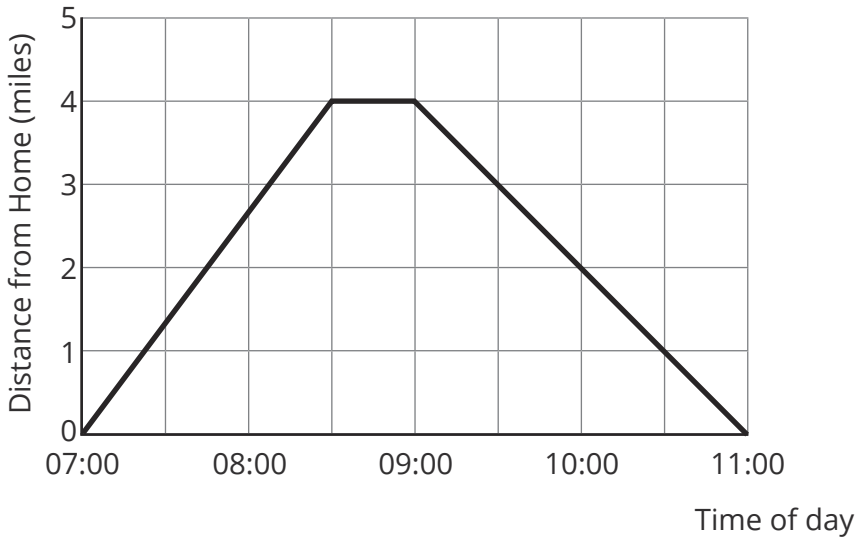
b. How long has Yusuf been stationary for?

30 minutes

c. Yusuf begins the journey home and travels 3 kilometres in 10 minutes before resting for a further 10 minutes. Yusuf's total journey lasts 100 minutes. Complete the above distance-time graph.

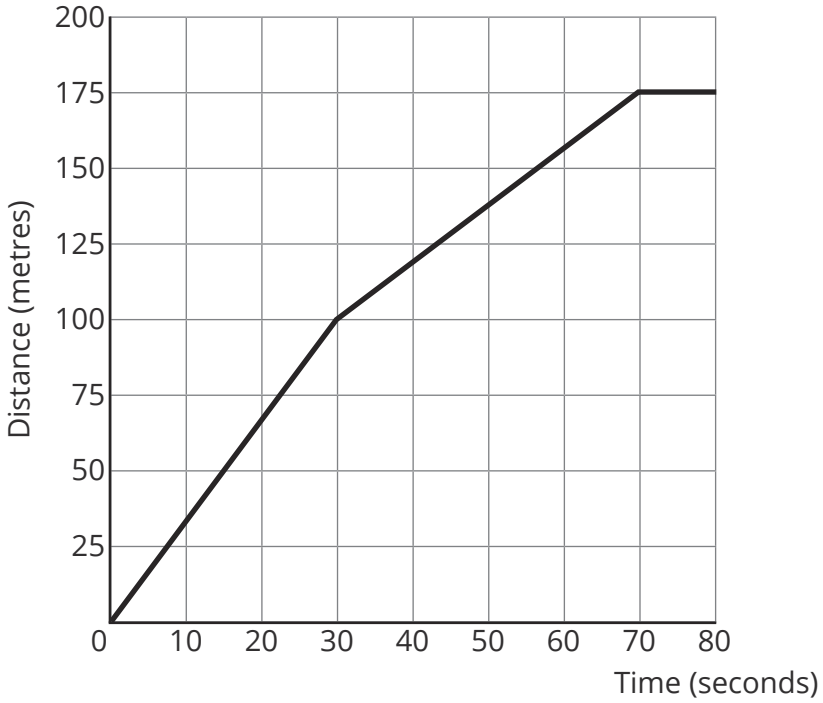
7. Giovanna leaves home at 7am. She walks 4 miles in 90 minutes and then decides to rest for 30 minutes. Giovanna then returns home and arrives at 11am.

Draw a distance-time graph to show Giovanna's journey.



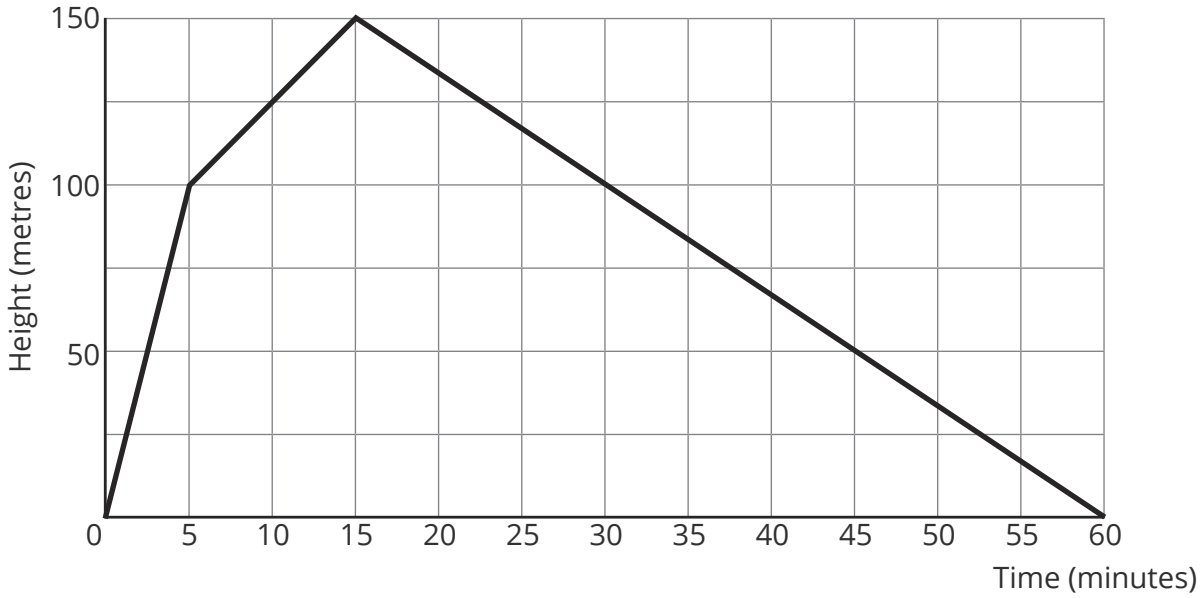
8. An otter swims 100 metres in 30 seconds before they get tired and drift along 75 metres for 40 seconds. The otter than relaxes on the riverbank for 10 seconds.

   Draw a distance-time graph to show the otter's journey.



9. A child lets go of a balloon. In the first 5 minutes, the balloon rises 100 metres. In the next 10 minutes, it rises a further 50 metres. The balloon then begins to fall at a constant speed. The balloon returns to its original position 60 minutes after the child had let go of it.

   Draw a distance-time graph to show this information.



10. Sophia rode her bike to post a letter. She left home and cycled at a constant speed for 2 minutes, travelling 300 metres. Sophia was stationary for 1 minute before continuing her journey, travelling for a further 2 minutes. Sophia was now 500 metres from home. She remained stationary for 2 minutes while she posted the letter and rested. Sophia returned home, cycling at a constant speed. The total journey was 12 minutes.

    Draw a distance-time graph to show Sophia's journey.