JRA Tutors
Private tuition and small online Study Pods

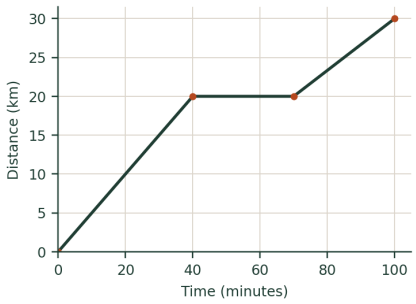
Real Life and Distance-Time Graphs

Grade 4 topic · Foundation and Higher · Edexcel and AQA

How to use this pack
20 questions that get harder as you go. Foundation students: aim for Questions 1–15 (40 marks) and have a go at the rest. Higher students: complete all 20. Show your working on the lines and write your final answer on the answer line, then mark yourself with the answers at the back. Diagrams are not drawn accurately. Total: 61 marks.

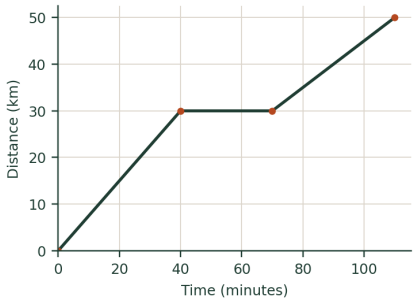
Warm-up

1 How far has the cyclist travelled after 40 minutes? **[1 mark]**



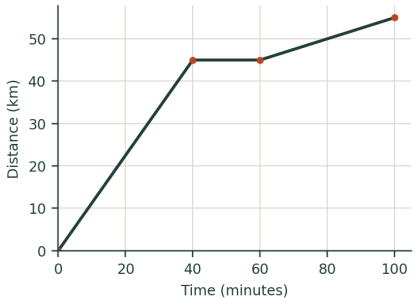
Answer _____

2 For how many minutes does the cyclist stop? **[2 marks]**



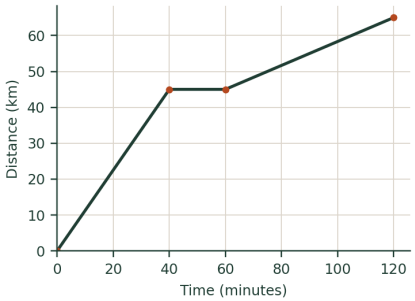
Answer _____

3 How far has the cyclist travelled in total? **[1 mark]**



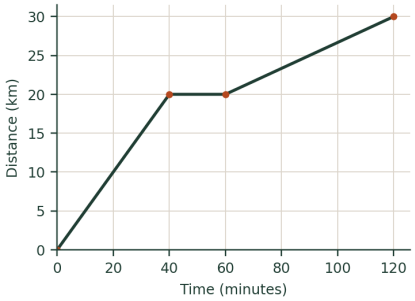
Answer _____

4 How long does the whole journey take? **[1 mark]**



Answer _____

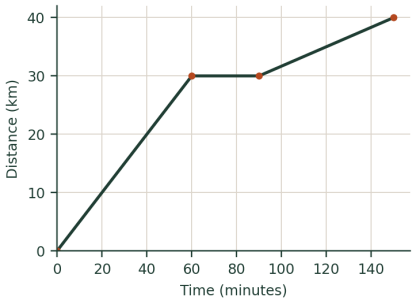
5 At what time does the cyclist stop? (How many minutes after starting?) **[2 marks]**



Answer _____

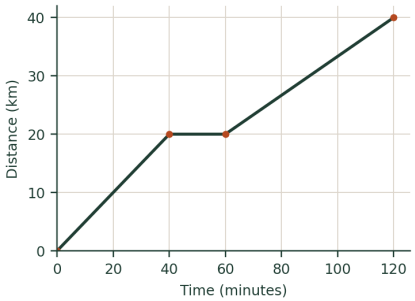
Core

6 Work out the speed of the cyclist during the first part of the journey, in km/h. **[3 marks]**



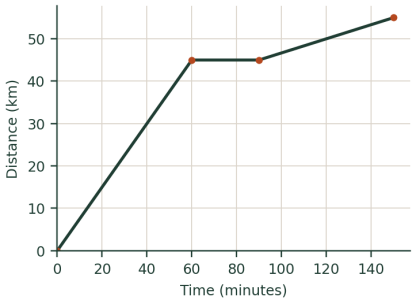
Answer _____

7 Work out the speed of the cyclist in the last part of the journey, in km/h. **[3 marks]**



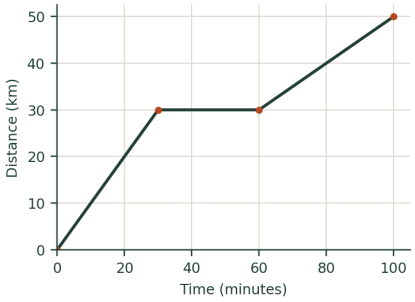
Answer _____

8 Work out the average speed for the whole journey, in km/h. **[4 marks]**



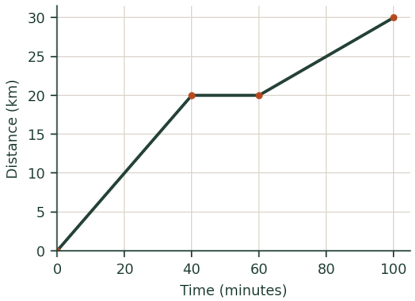
Answer _____

9 During which part of the journey is the cyclist travelling fastest? **[3 marks]**



Answer _____

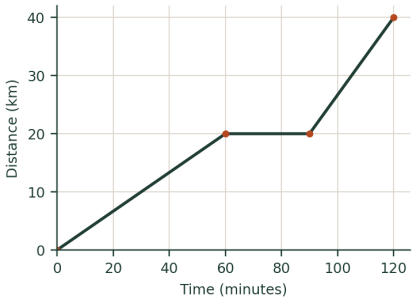
10 Work out the gradient of the first line segment and say what it represents. **[3 marks]**



Answer _____

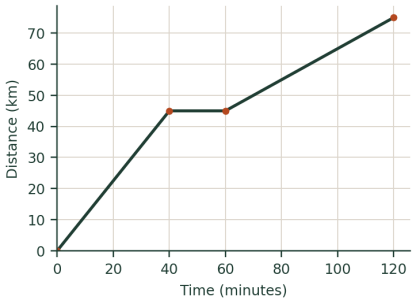
Stretch

11 How much further does the cyclist travel after the rest than before it? **[3 marks]**



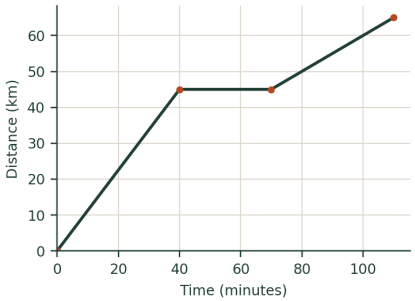
Answer _____

12 Work out the percentage of the total time spent resting. Give your answer to 1 decimal place. **[4 marks]**



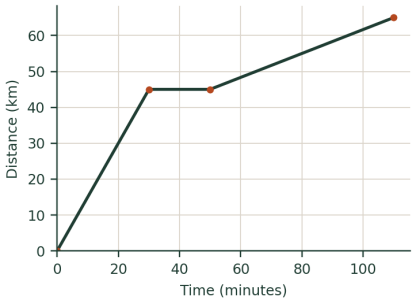
Answer _____

13 The cyclist then rides straight back to the start at a steady speed in 50 minutes. Work out the return speed in km/h. **[4 marks]**



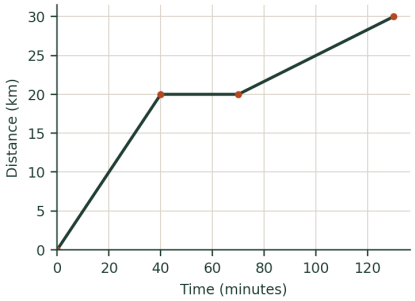
Answer _____

14 The cyclist stops for the rest. Explain how you can tell from the graph. **[2 marks]**



Answer _____

15 A second cyclist leaves at the same time and travels at a constant 40 km/h. **[4 marks]**
How far has this cyclist gone after 40 minutes?



Answer _____

Challenge

16 Taxi A and taxi B travel the same 60 km route. A takes 45 minutes and B takes 1 hour. Work out the difference in their average speeds in km/h. **[5 marks]**

Answer _____

17 A car travels 150 km in 2 hours 30 minutes. It then travels another 90 km at 60 km/h. Work out its average speed for the whole journey. **[5 marks]**

Answer _____

18 A water tank is filled at a constant rate. After 10 minutes it holds 40 litres. How many litres does it hold after 25 minutes? **[4 marks]**

Answer _____

19 The graph of a journey has gradient 0.8 km per minute. Work out the speed in km/h. **[4 marks]**

Answer _____

20 A car travels 90 km in 1 hour 30 minutes. Work out its average speed. **[3 marks]**

Answer _____