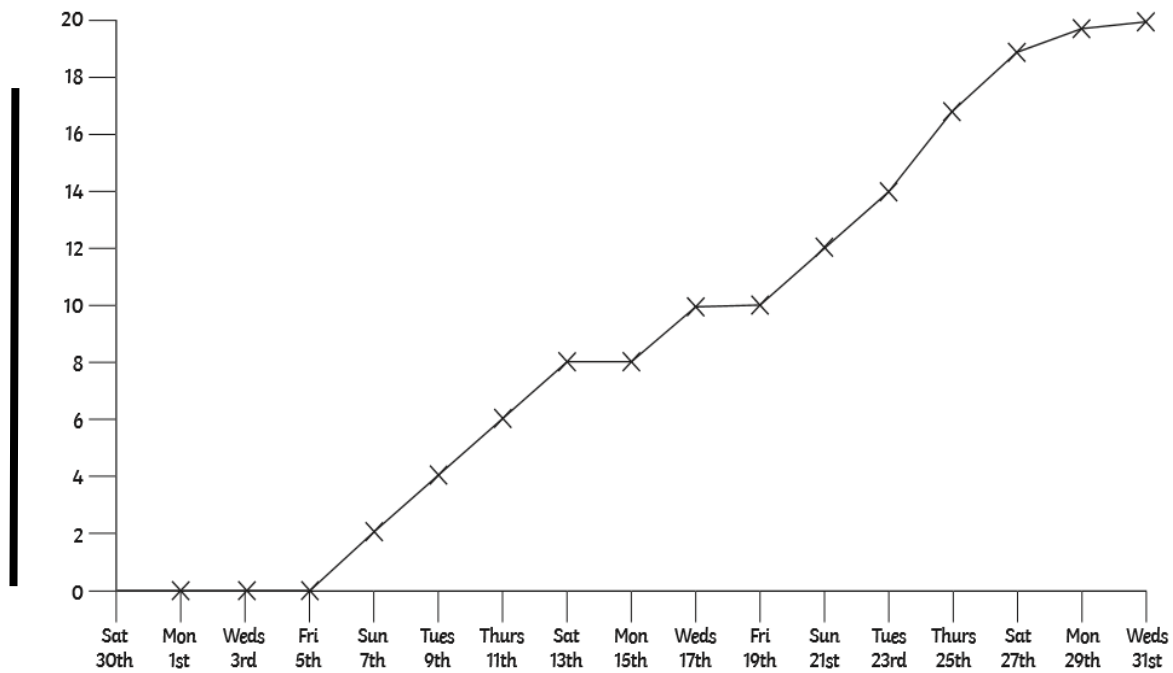


Look at the line graph below. Fill in the missing labels.

Sunflower Line Graph

Here is a line graph showing a sunflower's growth. It was planted on Saturday 30th and its height was measured every 2 days.



1. How many days did the plant take to grow 18cm?

2. What is the height difference between Friday 19th and Thursday 25th?

3. What is the height of the plant on these days:

a) Thursday 11th

b) Friday 19th

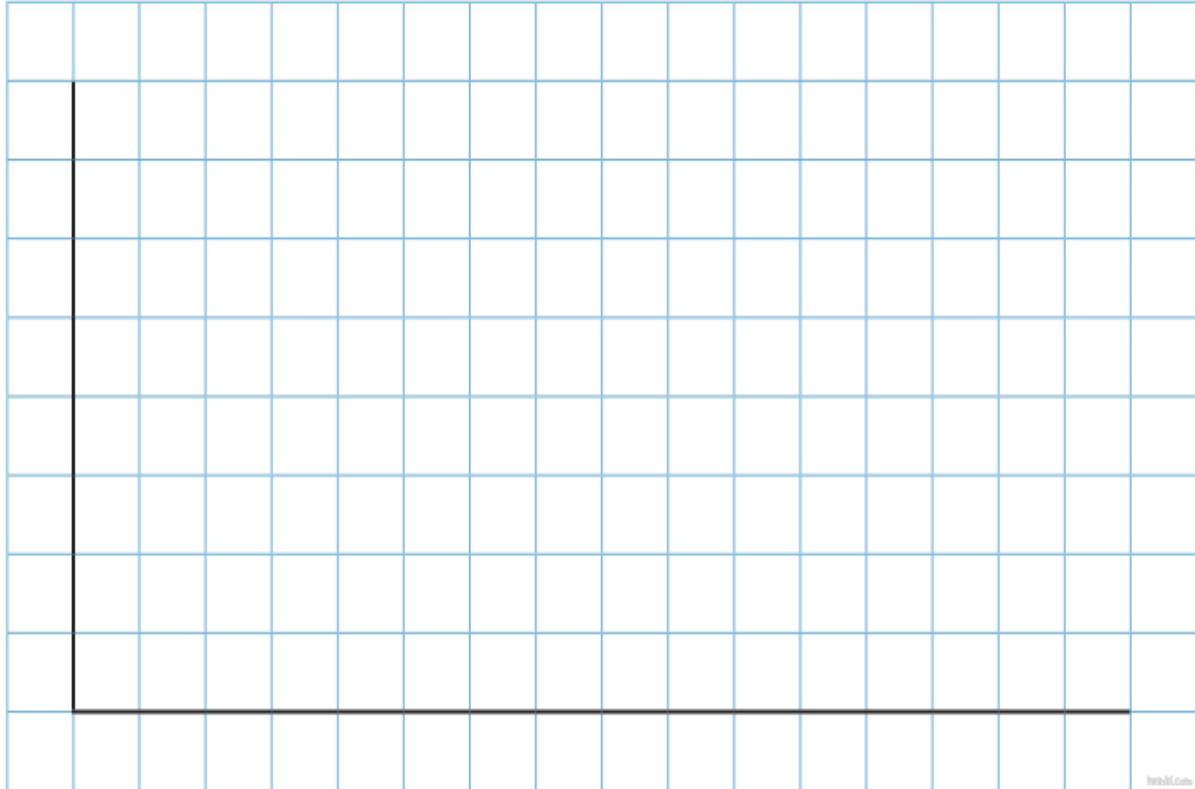
c) Monday 29th

4. Why do you think there is no measurement in the first week?

ARE—Fluency 3

Complete a bar graph using the information which you have collected.

A bar graph to show _____

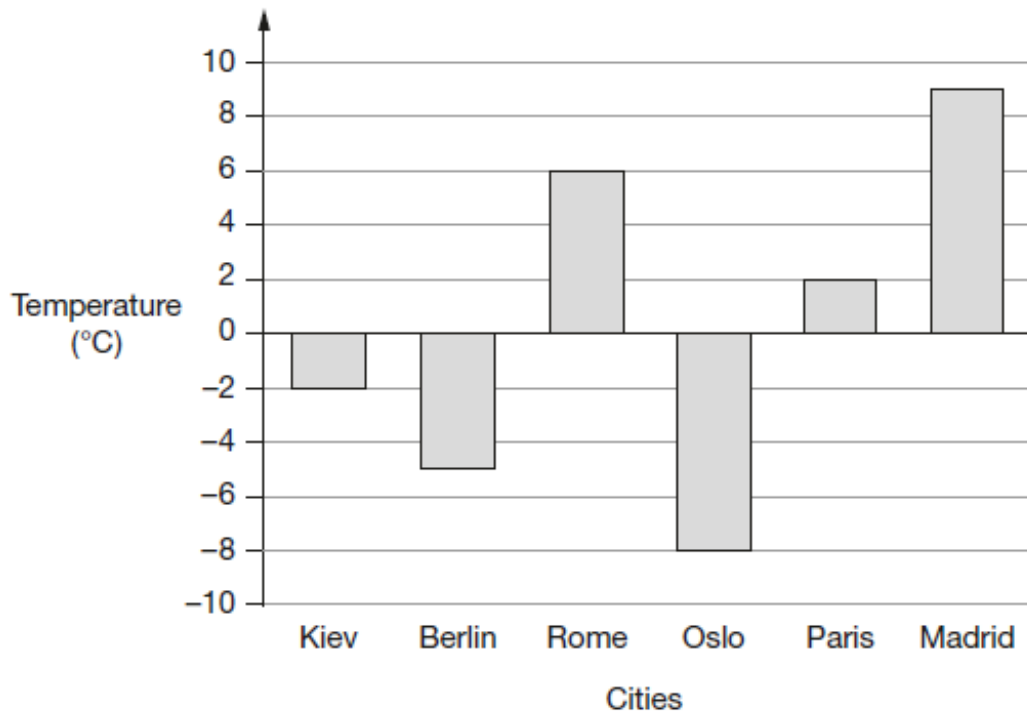


Answer these questions based on your graph.

1. Which month has the third most birthdays?
2. Which month has the most birthdays?
3. How many people have birthdays between January and May?
4. How many people have birthdays between August and December?
5. Which month has the fewest birthdays?

ARE—Application 1

This graph shows the temperature in six cities on one day in January.



Which city was 4 degrees **warmer** than Kiev?

1 mark

What was the **difference** between the temperature in Oslo and the temperature in Berlin?

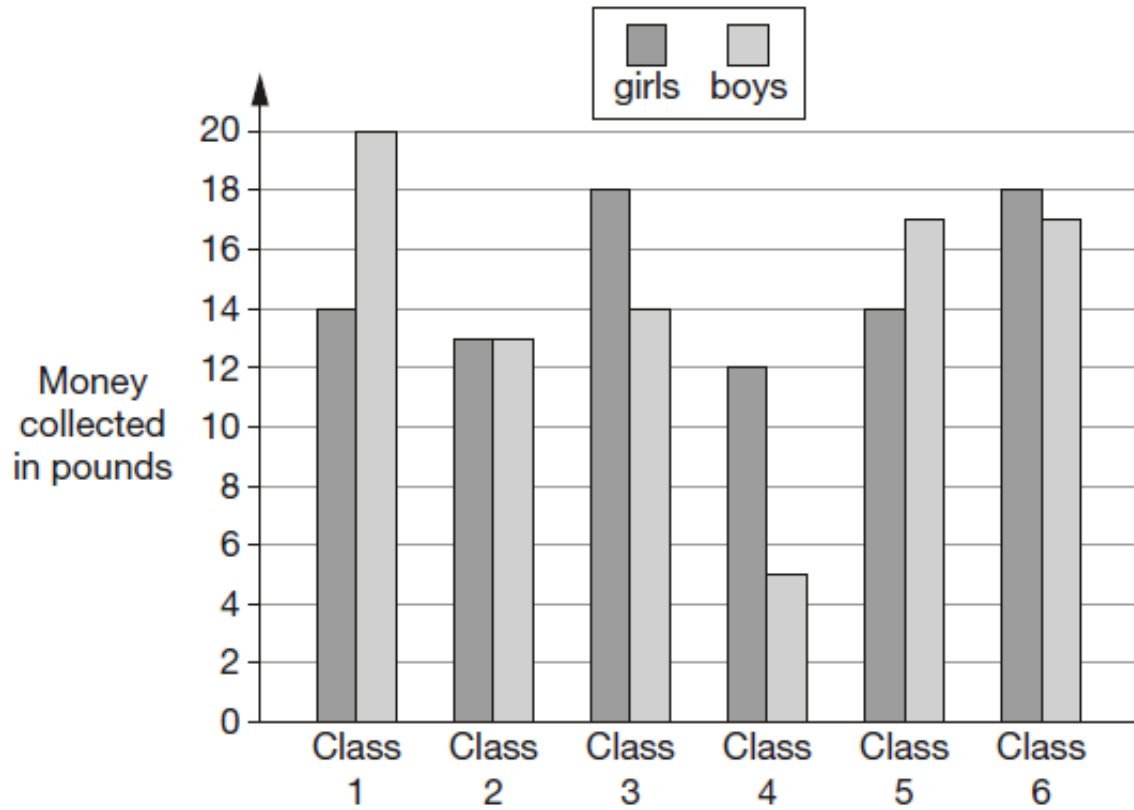
°C

1 mark

ARE—Application 2

Six classes at Winward Primary School collected some money.

The chart shows how much money the boys and girls collected.



In Class 4, how much more money did the girls collect than the boys?

1 mark

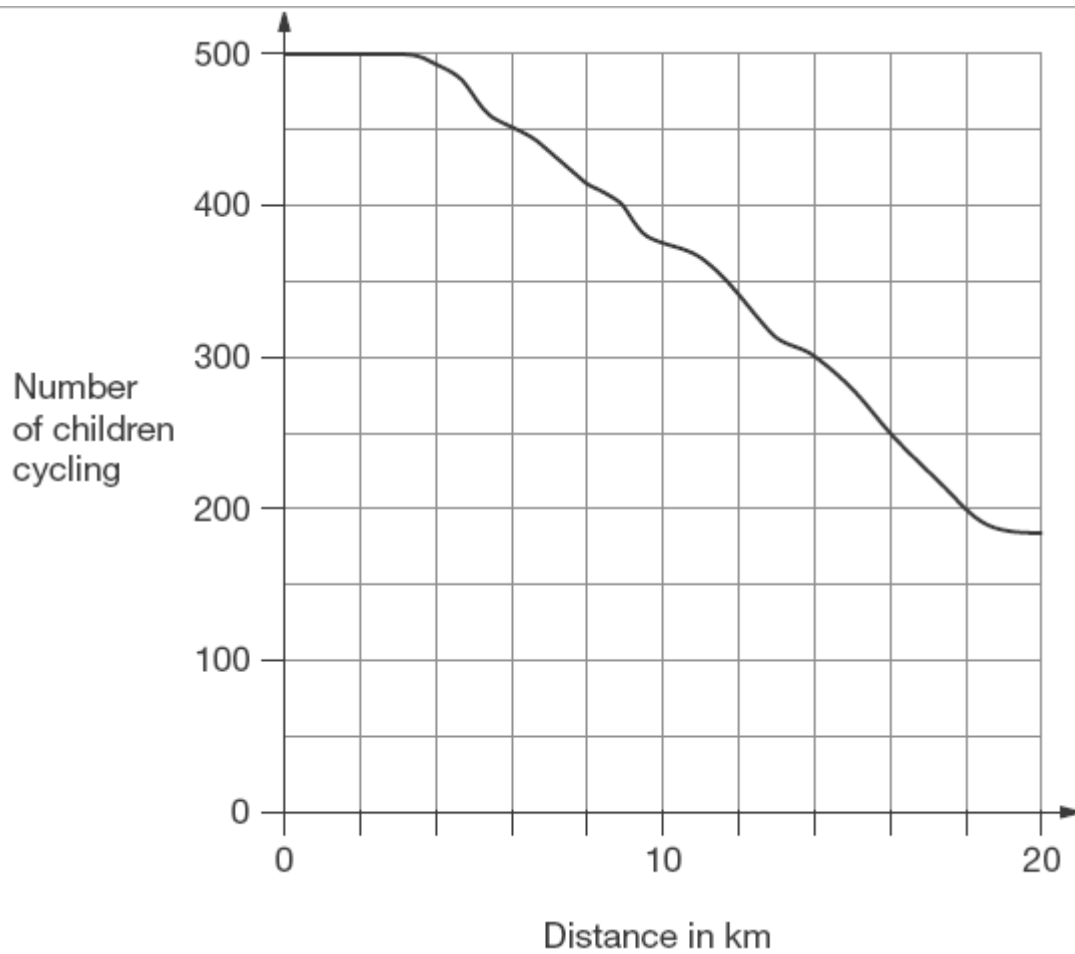
How many classes collected more than £30?

1 mark

ARE—Application 4

500 children started a 20 kilometre sponsored cycle ride.

This graph shows how far they cycled.



At what distance were exactly half of the children still cycling?

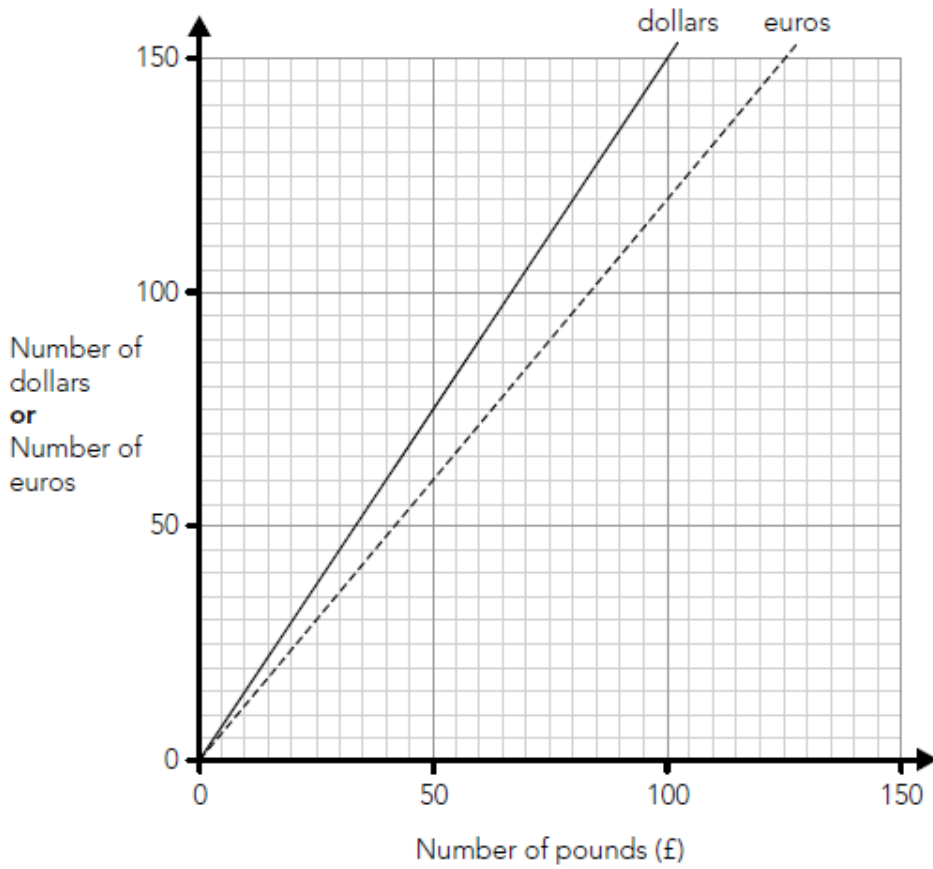
1 mark

Estimate how many children completed the 20 kilometre cycle ride.

1 mark

ARE—Application 5

Nik uses this graph to change between pounds (£), dollars and euros.



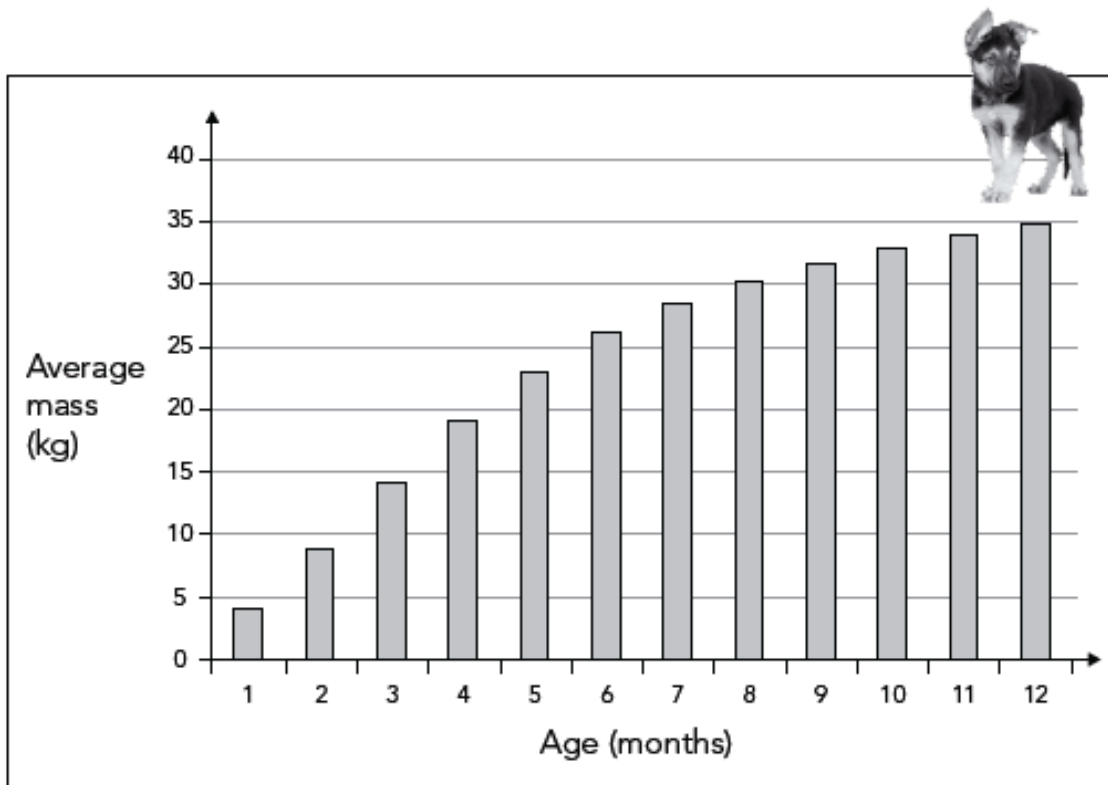
Use the graph to work out the missing numbers below.

The first one is done for you.

£70	is about the same as	84 euros
£70	is about the same as	_____ dollars
120 dollars	is about the same as	£_____
120 euros	is about the same as	_____ dollars

GD—Application 1

Here are two pieces of information about dogs called German Shepherds.



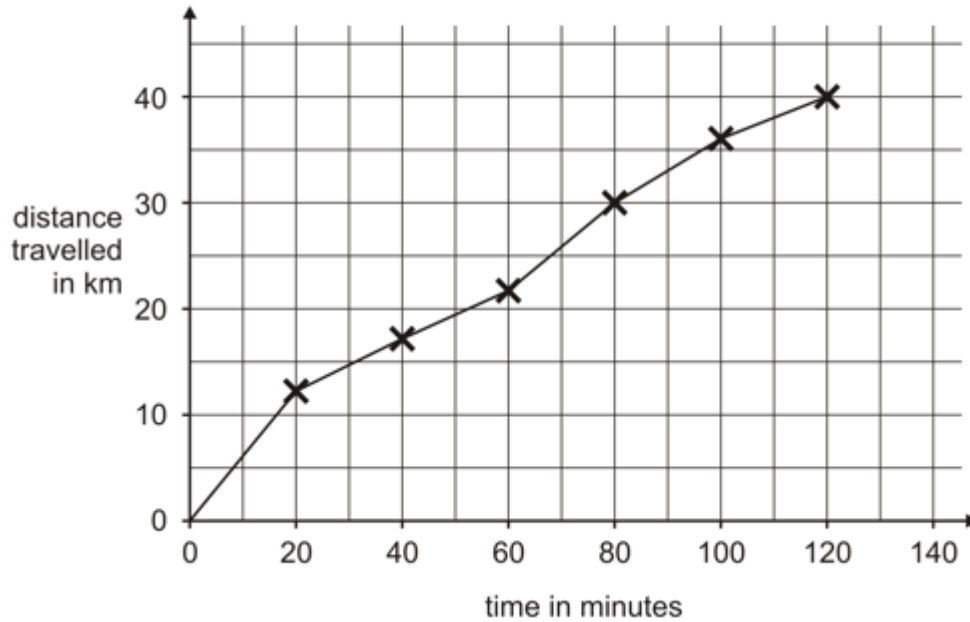
Use **both** pieces of information to summarise how German Shepherd dogs grow.

2 marks

GD—Application 2

Carol went on a **40-kilometre** cycle ride.

This is a graph of how far she had gone at different times.



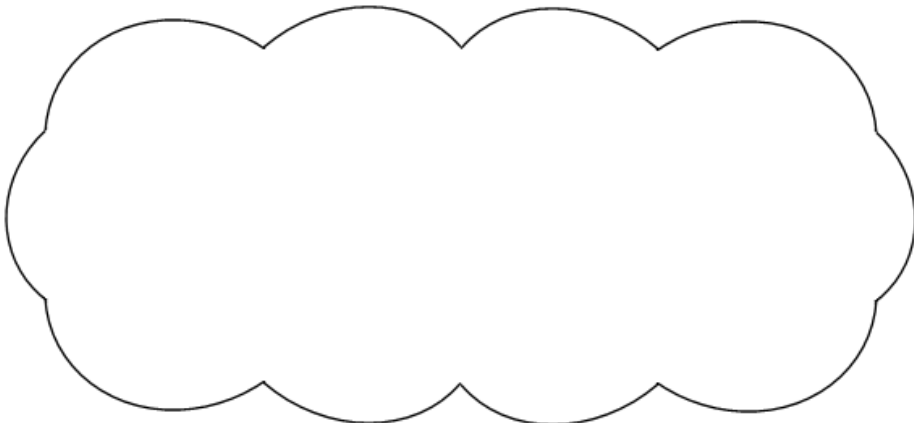
How many minutes did Carol take to travel the **last 10 kilometres** of the ride?

Use the graph to estimate the distance travelled in the **first 20 minutes** of the ride.

Carol says,

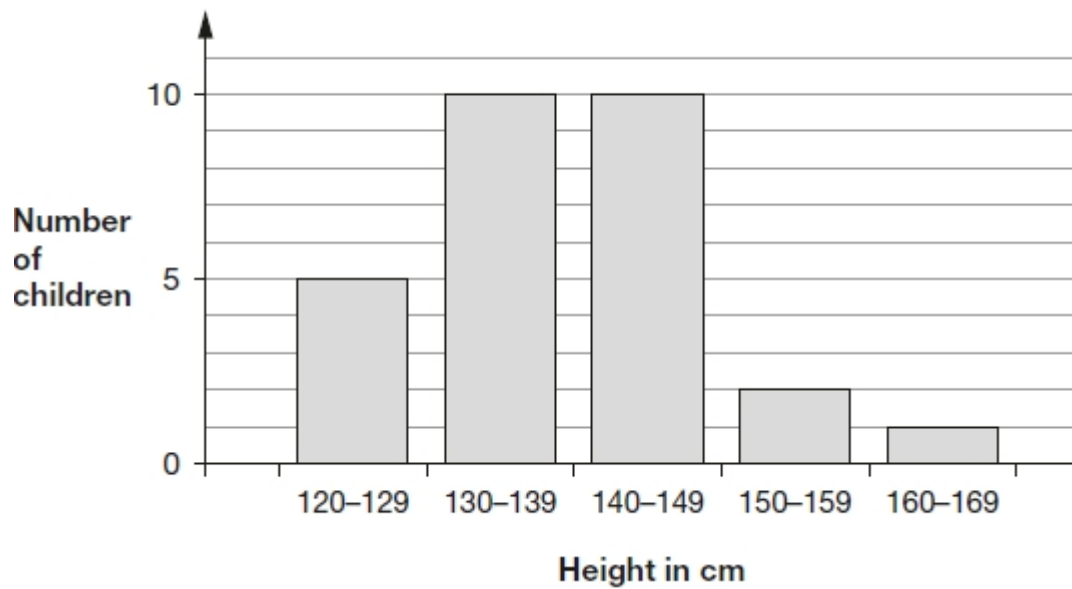
'I travelled further in the first hour than in the second hour.'

Explain how the graph shows this.



GD—Application 3

The graph shows the heights of 28 children in Alfie's class, to the nearest centimetre.



Alfie is 153 cm tall.

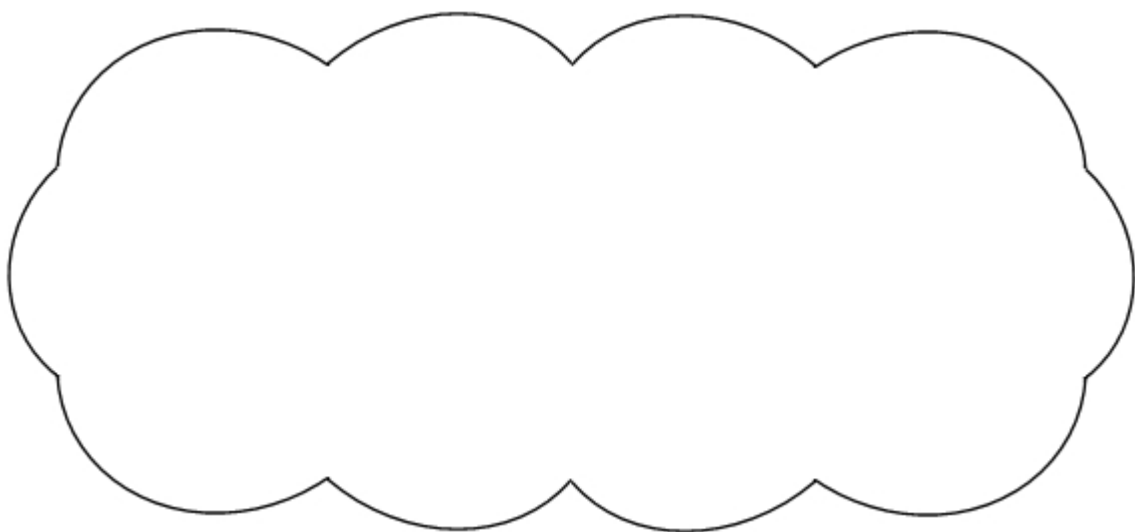
He says,

'Only one person in my class is taller than I am.'

Emma says,

'You can't tell this from the graph.'

Explain why Emma is correct.



Extension

Year	Men's winner and time (secs)	Women's winner and time (secs)
1976	Hasely Crawford 10.06	Annegret Richter 11.08
1980	Allan Wells 10.25	Lyudmila Kondratyeva 11.06
1984	Carl Lewis 9.99	Evelyn Ashford 10.97
1988	Carl Lewis 9.92	Florence Griffith-Joyner 10.54
1992	Linford Christie 9.96	Gail Devers 10.82
1996	Donovan Bailey 9.84	Gail Devers 10.94
2000	Maurice Greene 9.87	Vacated
2004	Justin Gatlin 9.85	Yulia Nestsarenka 10.93
2008	Usain Bolt 9.69	Shelly-Ann Fraser 10.78
2012	Usain Bolt 9.63	Shelly- Ann Fraser-Pryce 10.75
2016	Usain Bolt 9.81	Elaine Thompson 10.71

1. Plot a line graph of winning times against the year, for both males and females.
2. Write a conclusion for the results (remember to include examples).
3. Can you suggest a reason why there is no result for the women's 100m in the year 2000?
4. What factors are contributing to times generally becoming faster and faster?

