Reasoning and Problem Solving
Step 2: Draw Line Graphs

National Curriculum Objectives:

Mathematics Year 6: (6S1) Interpret and construct pie charts and line graphs and use these to solve problems

Differentiation:

Questions 1, 4 and 7 (Problem Solving)
Developing Use knowledge of line graphs to make an estimate based on the graph's trend with 1 set of data. Axes in multiples of 2 and 10.
Expected Use knowledge of line graphs to make an estimate based on the graph's trend with 1 set of data. Axes in multiples of 5 and 10.
Greater Depth Use knowledge of line graphs to make an estimate based on the graph's trend with 2 sets of data. Axes in varying scales.

Questions 2, 5 and 8 (Reasoning)
Developing Given 1 set of data, suggest what trends could mean and why. Axes in multiples of 2 and 10.
Expected Given 1 set of data, suggest what the trend could mean and why. Axes in multiples of 2 and 5.
Greater Depth Given 2 sets of data, suggest what trends could mean and why. Axes in varying scales.

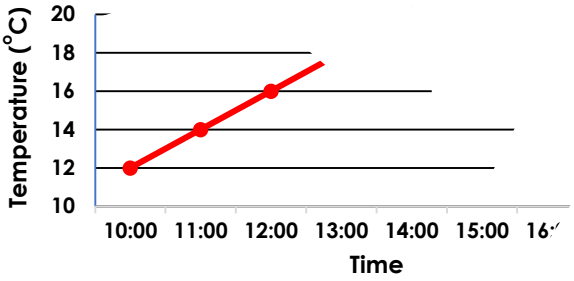
Questions 3, 6 and 9 (Reasoning)
Developing Use knowledge of line graphs to determine whether an appropriate axis scale has been used. Appropriate scales in multiples of 2.
Expected Use knowledge of line graphs to determine whether an appropriate axis scale has been used. Appropriate scales in varying multiples.
Greater Depth Use knowledge of line graphs to determine whether an appropriate axis scale has been used. Appropriate scale in varying multiples.

More Year 6 Statistics resources.

Did you like this resource? Don't forget to review it on our website.

Draw Line Graphs

1a. Part of this line graph is missing. It should show from to 10:00 to 17:00.



If the graph continues in the same way, what will the temperature be at 17:00?

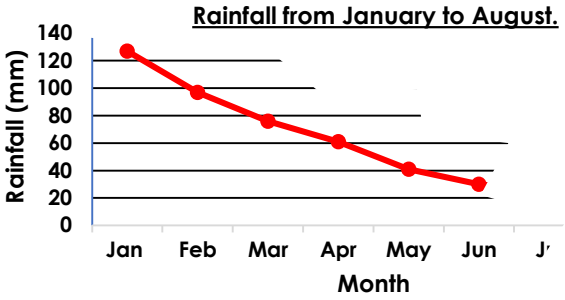
Draw the completed line graph.

D

PS

Draw Line Graphs

1b. Part of this line graph is missing. It should show from January to August.



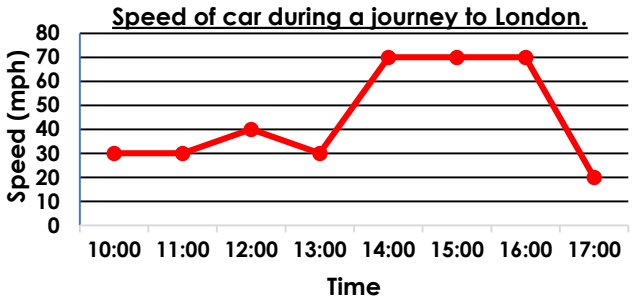
If the graph continued in the same way, how much rain would have fallen in July?

Draw the completed line graph.

D

PS

2a. The line graph shows the speed of a car during a journey to London.

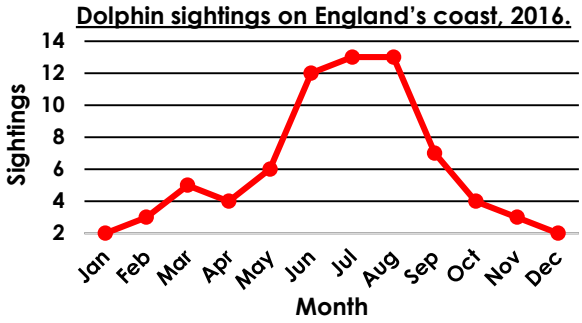


What has happened between 13:00 and 14:00?
Explain your reasoning.

D

R

2b. The line graph shows the number of dolphin sightings on England's coast.

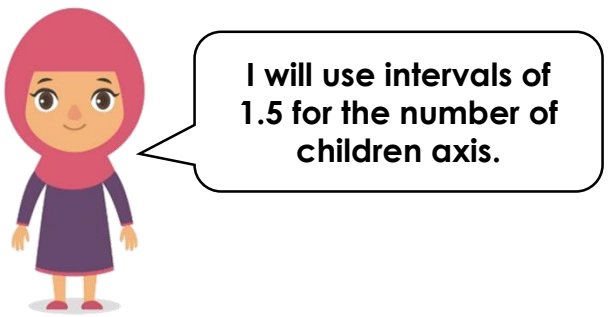


Which three months had the most dolphin sightings?
Explain your reasoning.

D

R

3a. Umera is creating a line graph representing how many children were absent in her class over three weeks.

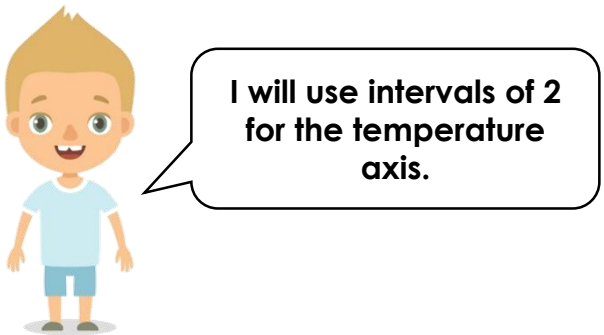


Will this work on her line graph? Why?

D

R

3b. Tom is creating a line graph representing the outside temperature over 24 hours.



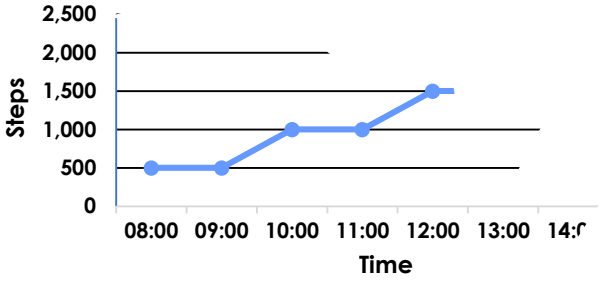
Will this work on his line graph? Why?

D

R

Draw Line Graphs

4a. Part of this line graph is missing.
It should show from 08:00 to 17:00.

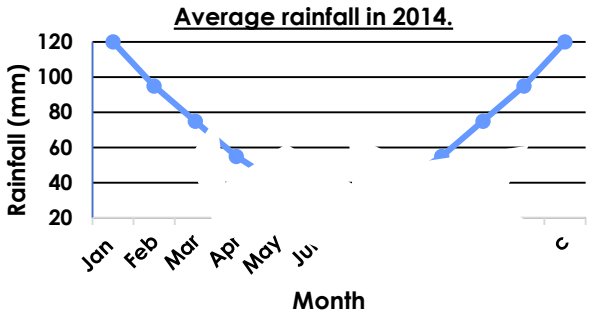


If the graph continued in the same way, how many steps would have been completed by 16:00?
Draw the completed line graph.

E PS

Draw Line Graphs

4b. Part of this line graph is missing.

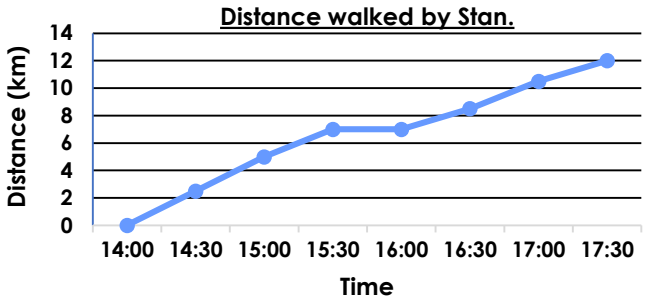


If the graph continued in the same way, how much rain would have fallen in July?

Draw the completed line graph.

E PS

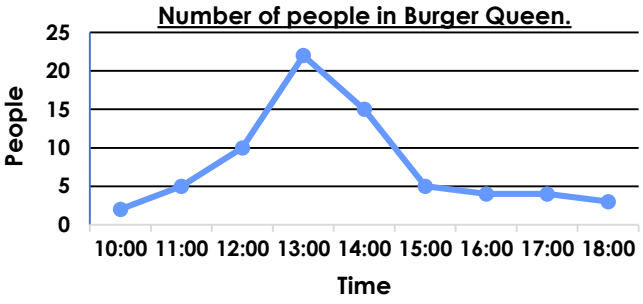
5a. The line graph shows how far Stan walked over 3.5 hours.



What could Stan be doing between 15:30 and 16:00?
Explain your reasoning.

E R

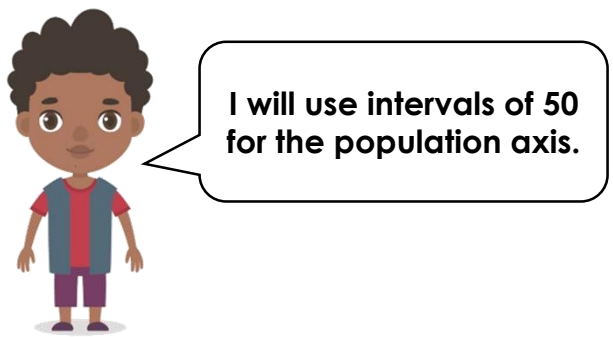
5b. The line graph shows the number of people in a Burger Queen over 8 hours.



What time are the most people in Burger Queen?
Explain your reasoning.

E R

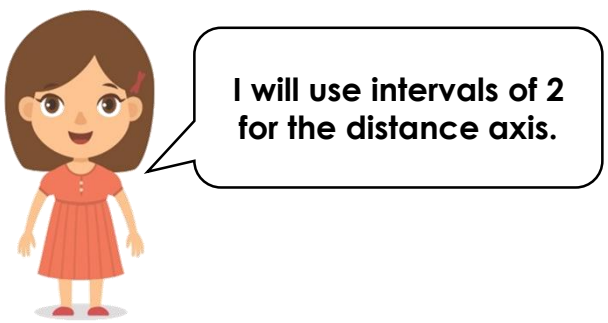
6a. Axel is creating a line graph representing the population of rabbits in different countries over 10 years.



Will this work on his line graph? Why?

E R

6b. Vanessa is creating a line graph representing how many kms she walked around school each day for a week.

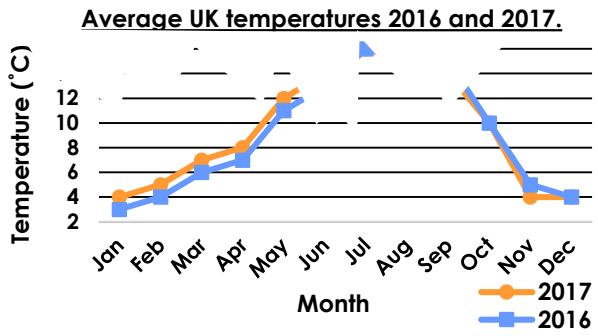


Will this work on her line graph? Why?

E R

Draw Line Graphs

7a. Part of this line graph is missing.

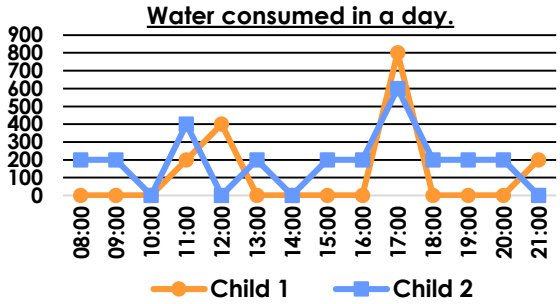


If the graph was complete, what would the temperatures be in August?
Draw the completed line graph.

GD

PS

8a. The line graph shows how much water two children consumed in a day.

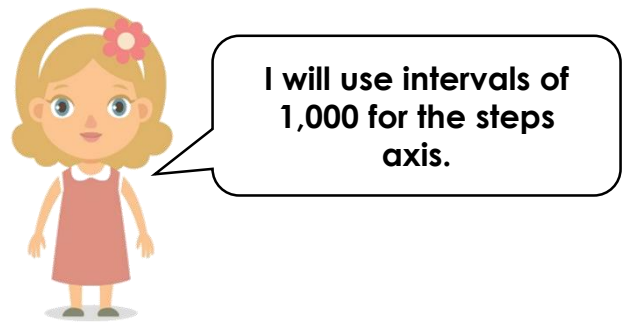


What could the children be doing at 17:00?
Explain your reasoning.

GD

R

9a. Ariel is creating a line graph representing how many steps she took during the day.

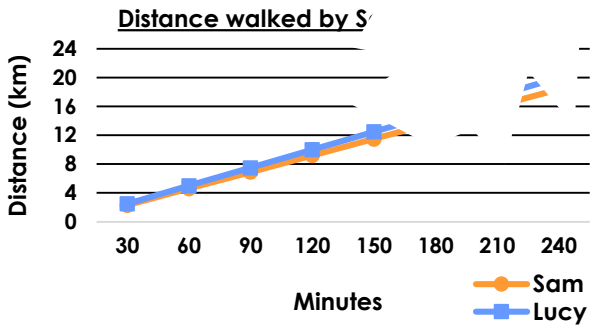


Will this work on her line graph? Why?

GD

R

4b. Part of this line graph is missing.

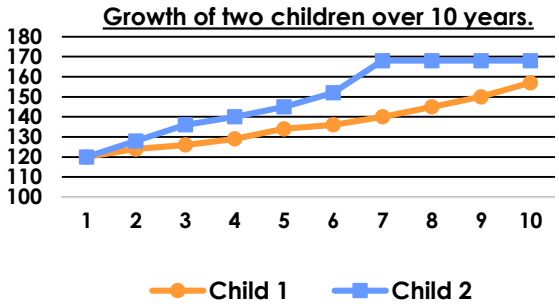


If the graph was complete, how far would Sam and Lucy have walked after 3 hours?
Draw the completed line graph.

GD

PS

8b. The line graph shows how much two children grew over 10 years.



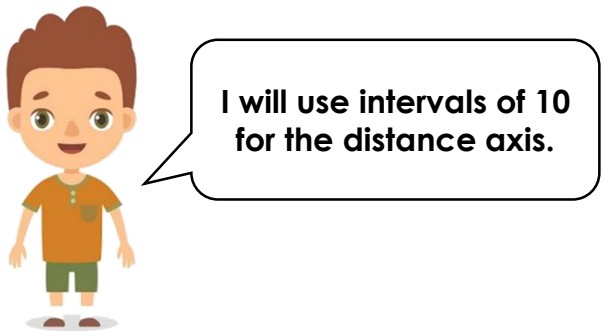
What could have happened to child 2?

Explain your reasoning.

GD

R

9b. Rafael is creating a line graph representing how many kms he drove with his family each day for a week.



Will this work on his line graph? Why?

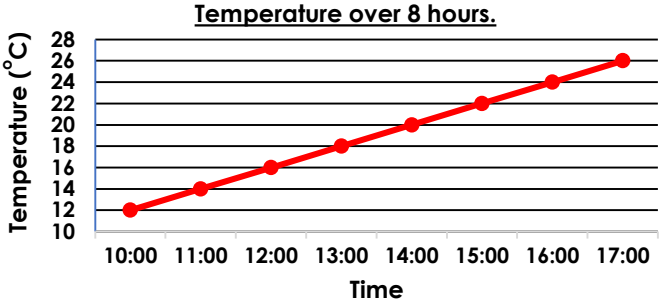
GD

R

Reasoning and Problem Solving
Draw Line Graphs

Developing

1a. 26°C

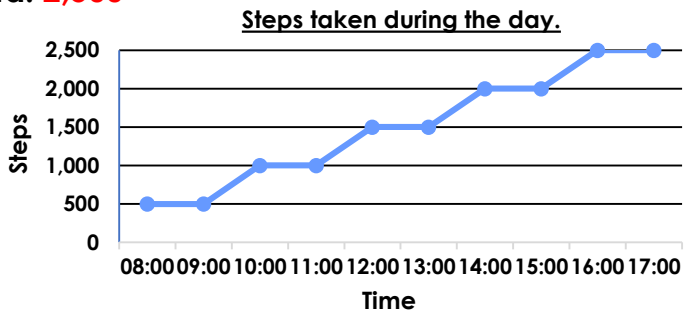


2a. The speed of the car increases. Example answer: The car is travelling on a motorway.

3a. No, you cannot have 0.5 children.

Expected

4a. 2,500

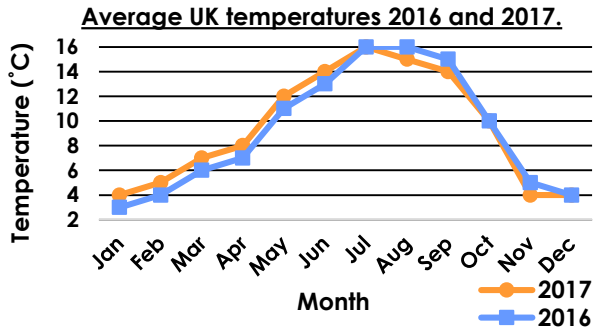


5a. Example answer: He is resting as he has not walked any farther.

6a. No. Rabbit numbers are likely to be much higher.

Greater Depth

7a. Accept 14 – 16°C



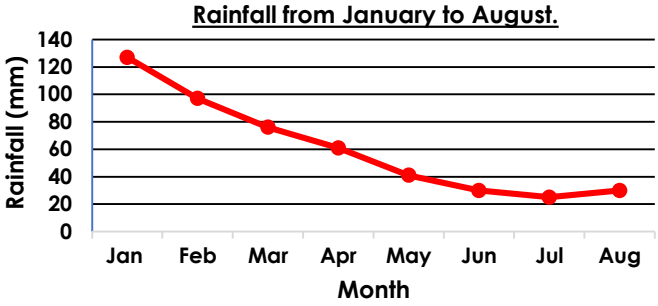
8a. Example answer: They could be exercising as they are drinking more.

9a. Yes. The axis would represent the likely amount of steps.

Reasoning and Problem Solving
Draw Line Graphs

Developing

1b. Accept 20 – 30mm

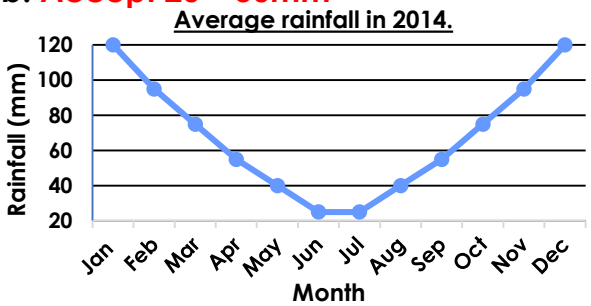


2b. June, July and August. Example answer: Warmer weather could mean more people to spot dolphins.

3b. Yes. The temperature is unlikely to change more rapidly.

Expected

4b. Accept 20 – 30mm

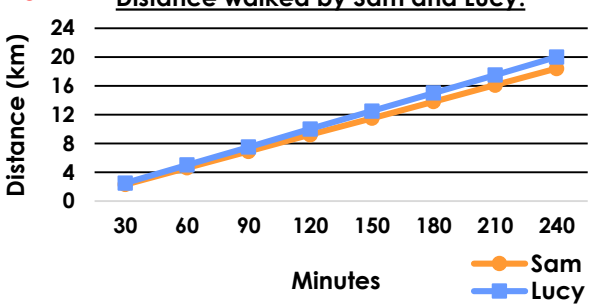


5b. 13:00. Example answer: There are more people could be on their lunch break.

6b. Yes. She is unlikely to walk much more at school.

Greater Depth

7b. Sam – approx. 13km, Lucy – approx. 15km



8b. Example answer: The child could have stopped growing.

9b. Yes. The axis would represent the likely amount an average person would drive.