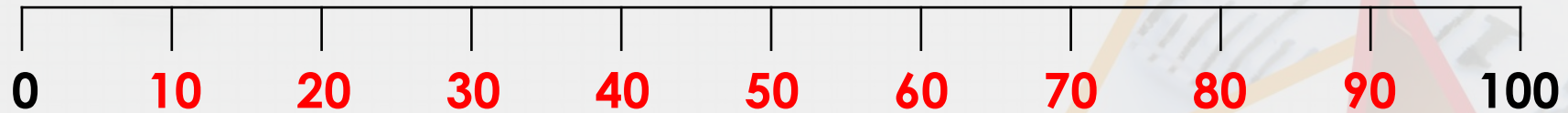
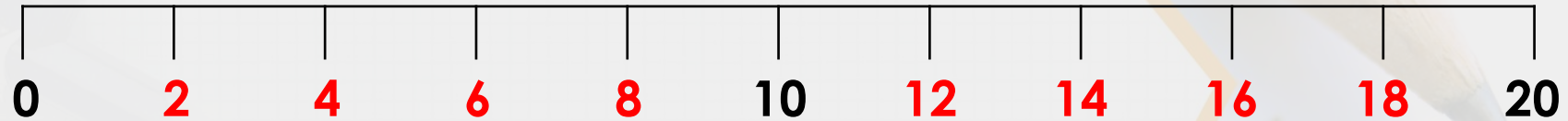


Step 1 Answers

Introduction

What is each increment worth on these scales?



Varied Fluency 1

Look at this pictogram.

Pocket Money



Fill in the blanks in the table.

< £5	£6 - £10	£11 - £15	£16 - £20
15	15	10	5

Varied Fluency 2

Think of one question to ask about the information in this tally chart:

Holiday Destinations

UK	/
Europe	
Rest of the World	

Various answers, for example:

How many people stayed in the UK for their holiday?

Which is the least popular destination?

How many people were asked in total?

How many more people stayed in the UK than travelled to Europe?

Varied Fluency 3

Use the information in the table to create a bar chart.

Colour of Cars Passing the School

Silver	35
Red	40
Blue	55

**Discuss which
scale to use:
1s, 2s, 5s, 10s,
20s**

**How will you
show 35? 55?**

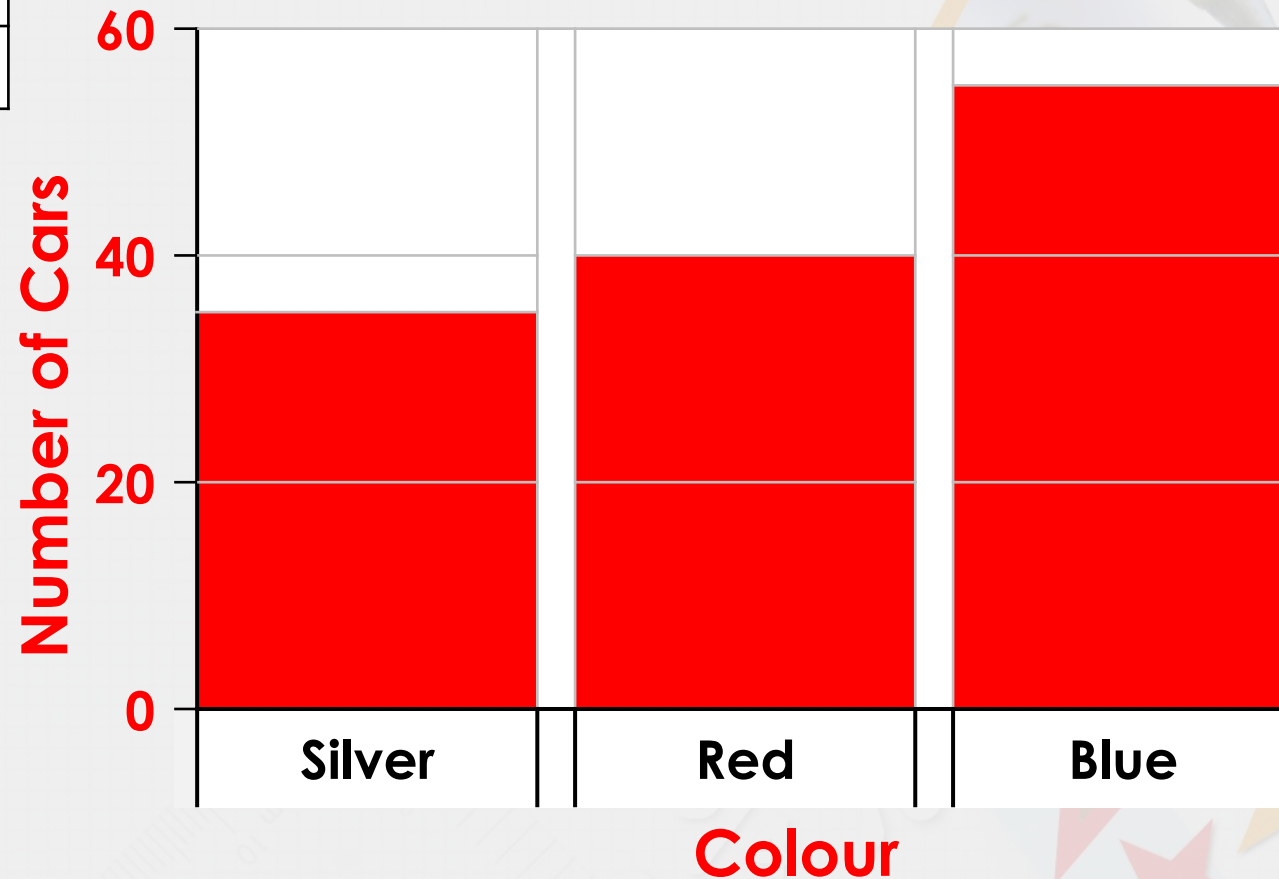


Varied Fluency 3

Use the information in the table to create a bar chart.

Silver	35
Red	40
Blue	55

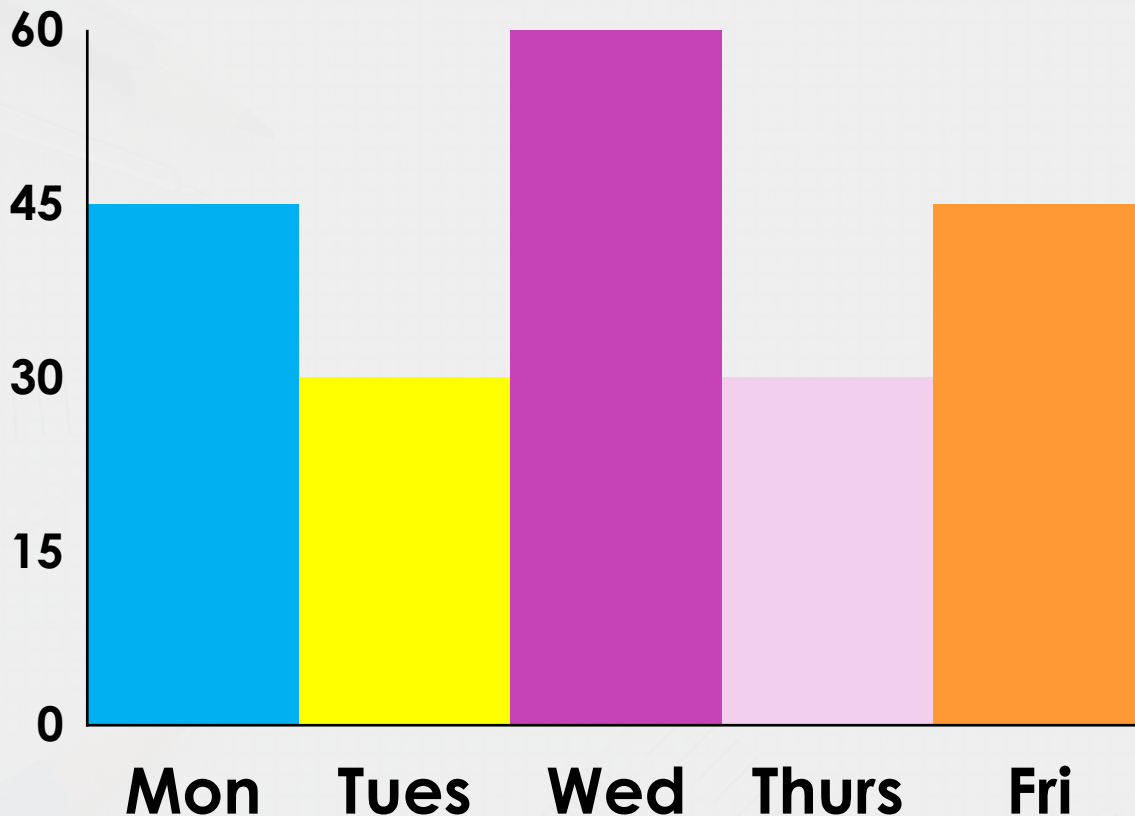
Colour of Cars Passing the School



Varied Fluency 4

Use the bar chart to answer the questions.

Cake Sales



How many cakes were sold on Monday? **45**

What is the most cakes sold in one day? **60 on Wednesday**

On which day were the least amount of cakes sold? **Tuesday and Thursday**

Reasoning 1

The school kitchen are collecting ideas for recipes by asking the children their favourite food.



Jayden

I want to use a pictogram to draw each meal.

I think a choice of 4 meals and a bar chart would work best.



Hakeem

Who do you agree with and why?

Hakeem has the best idea because...

Reasoning 1

The school kitchen are collecting ideas for recipes by asking the children their favourite food.



Jayden

I want to use a pictogram to draw each meal.

I think a choice of 4 meals and a bar chart would work best.



Hakeem

Who do you agree with and why?

Hakeem has the best idea; it will be quick and simple to collect the data and make people's decision making much easier.

Reasoning 2

True or false?

The lines on a chart are called axels.

Explain your answer.

False, the lines are called the y-axis and the x-axis (or axes).

Problem Solving 1

Mr Thompson says this tally chart is not easy to interpret.

Height of Pupils in Oak Class

< 1 metre	
> 1 metre	

Find 2 ways in which you could make the chart easier to interpret.

The tally should be 5 strokes so counting is easier.

The options could be broken into smaller steps e.g. 90cm to 1m, 1m to 1.5m, 1.5 to 2m as the data is not very useful with such a large range.

Step 2 Answers

Introduction



A full circle represents 20 children.



Three quarters of a circle represents **15** children.



Half of a circle represents **10** children.



A quarter of a circle represents **5** children.

Varied Fluency 1

Use the table to calculate the number of tickets bought altogether.

200

Monday's Cinema Ticket Sales

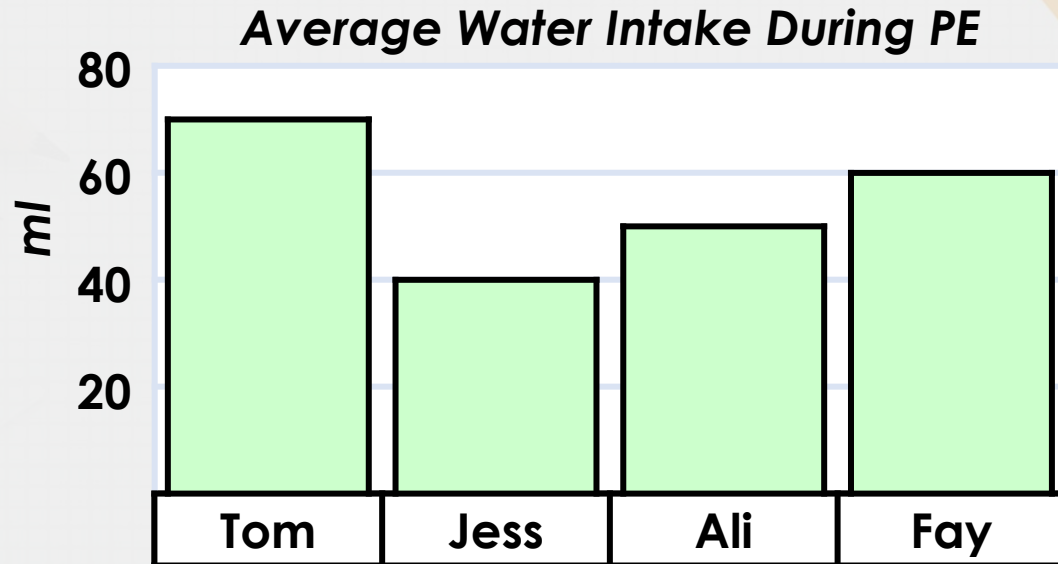
Film	Tickets
Attack of the Robots	60
Frostbite	30
True Love	40
The Great Adventure	70

Sort the films in order from the most to least popular.

The Great Adventure, Attack of the Robots, True Love, Frostbite

Varied Fluency 2

Complete the sentences below.



On average, Tom drinks **20** ml more water than Ali.





Jess drinks **20** ml less water than Fay.


Varied Fluency 3

Calculate the difference between the number of pears and apples grown.

10

Fruits Grown at Farley Farm Each Year

			
Strawberries	Pears	Oranges	Apples

 = 10 fruits

Which two fruits total 55?

Oranges and apples

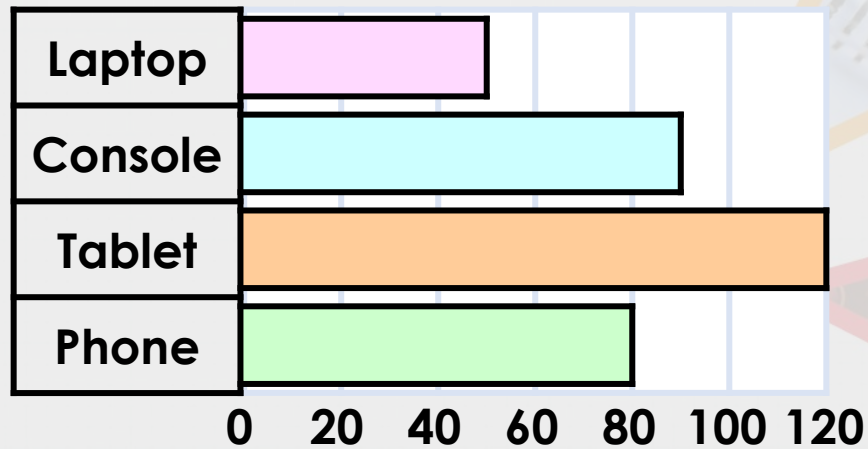
Reasoning 1

Kate says,



There were 20 more votes for consoles than phones.

KS2's Favourite Gadgets



Is she correct? Convince me.
Kate is not correct because...

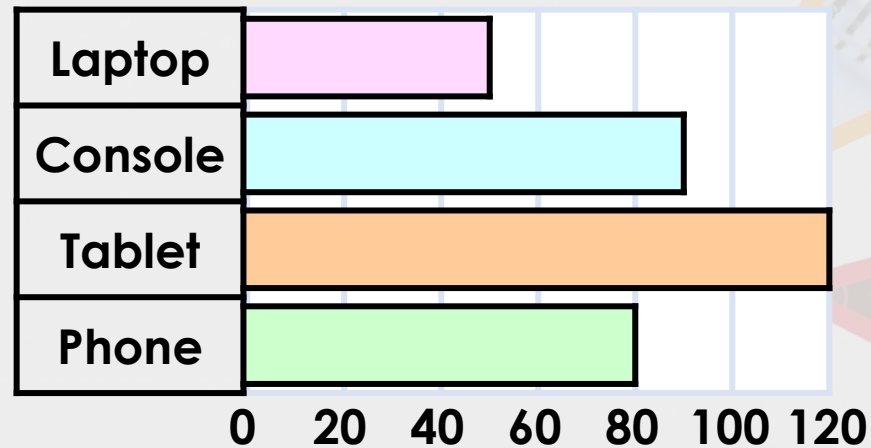
Reasoning 1

Kate says,



There were 20 more votes for consoles than phones.

KS2's Favourite Gadgets



Is she correct? Convince me.

Kate is not correct because there were 90 votes for consoles and 80 votes for phones, so there were 10 more votes for consoles than phones.

Reasoning 2

Circle the odd one out of A, B and C.

Favourite Treats	Votes
Chocolate	80
Sweets	60
Biscuits	30
Crisps	90

A. 250 people voted for their favourite treats.

B. Crisps received the highest number of votes.

C. 60 people voted for sweets.

Explain your reasoning.

A is the odd one out because...

Reasoning 2

Circle the odd one out of A, B and C.

Favourite Treats	Votes
Chocolate	80
Sweets	60
Biscuits	30
Crisps	90

A. 250 people voted for their favourite treats.

B. Crisps received the highest number of votes.

C. 60 people voted for sweets.

Explain your reasoning.

A is the odd one out because it is incorrect. 260 people voted for their favourite treats.




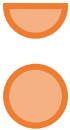
Problem Solving 1

Fill in the missing data.

There were more donkeys than llamas, but fewer donkeys than goats.

There were 20 more ponies than llamas.

Animals at the Petting Zoo

			
Ponies	Llamas	Donkeys	Goats

 = 10 animals

Step 3 Answers

Introduction

Which of the following can be represented on a line graph?

Your classmates' birthdays

Your favourite books

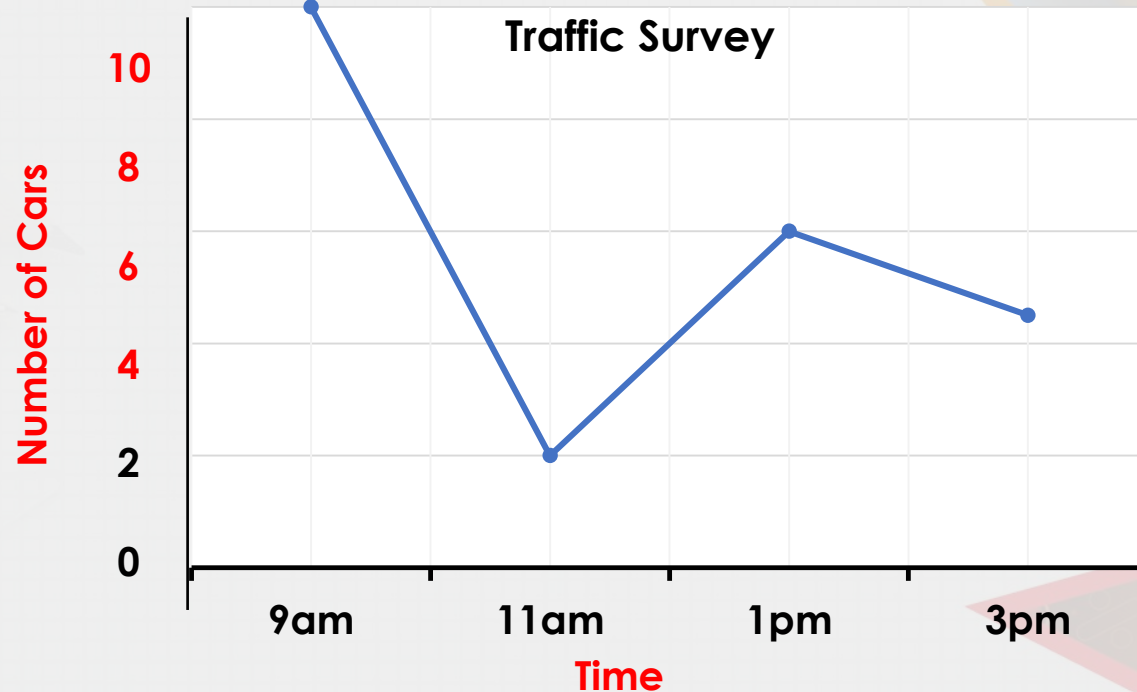
How much money an ice cream stall makes in a week

The temperature throughout the day

The height of a plane throughout a flight

Varied Fluency 1

What is missing?



Use the checklist to make sure the line graph has all these items:



Title



Axis Labels

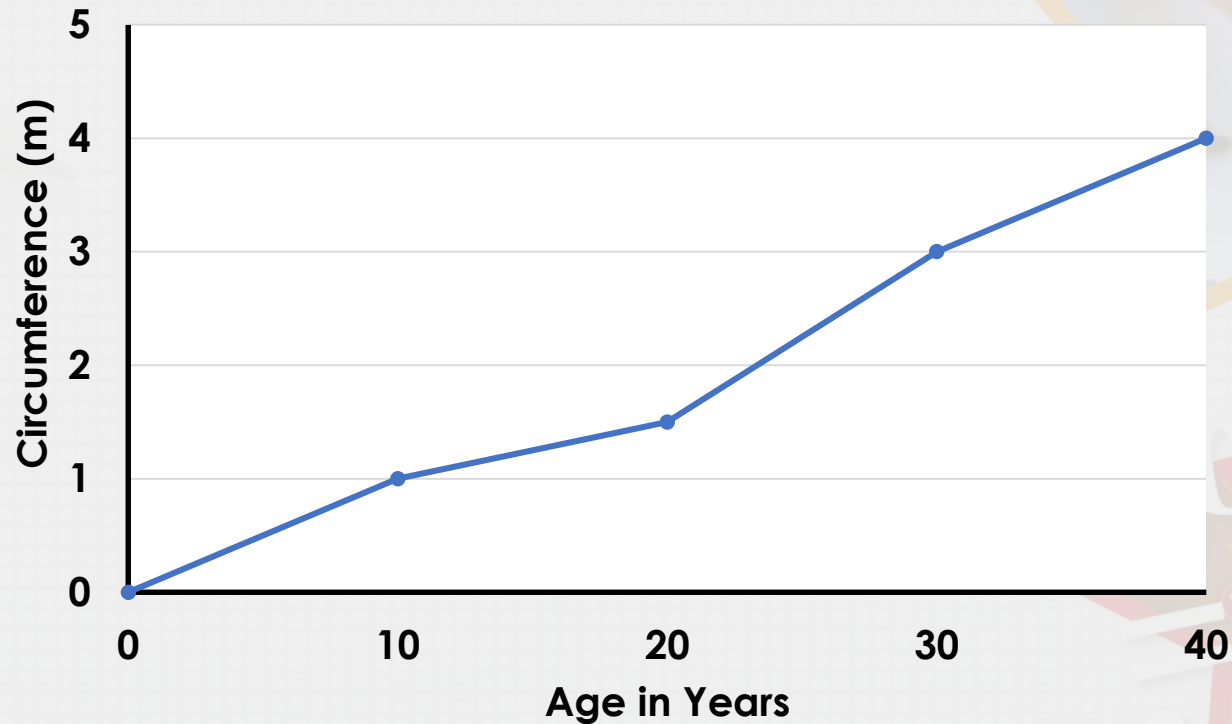


Scales

Varied Fluency 2

Use the line graph to fill in the gaps.

Circumference of Oak Tree Trunk



At 10 years, the oak tree measured **1** m.

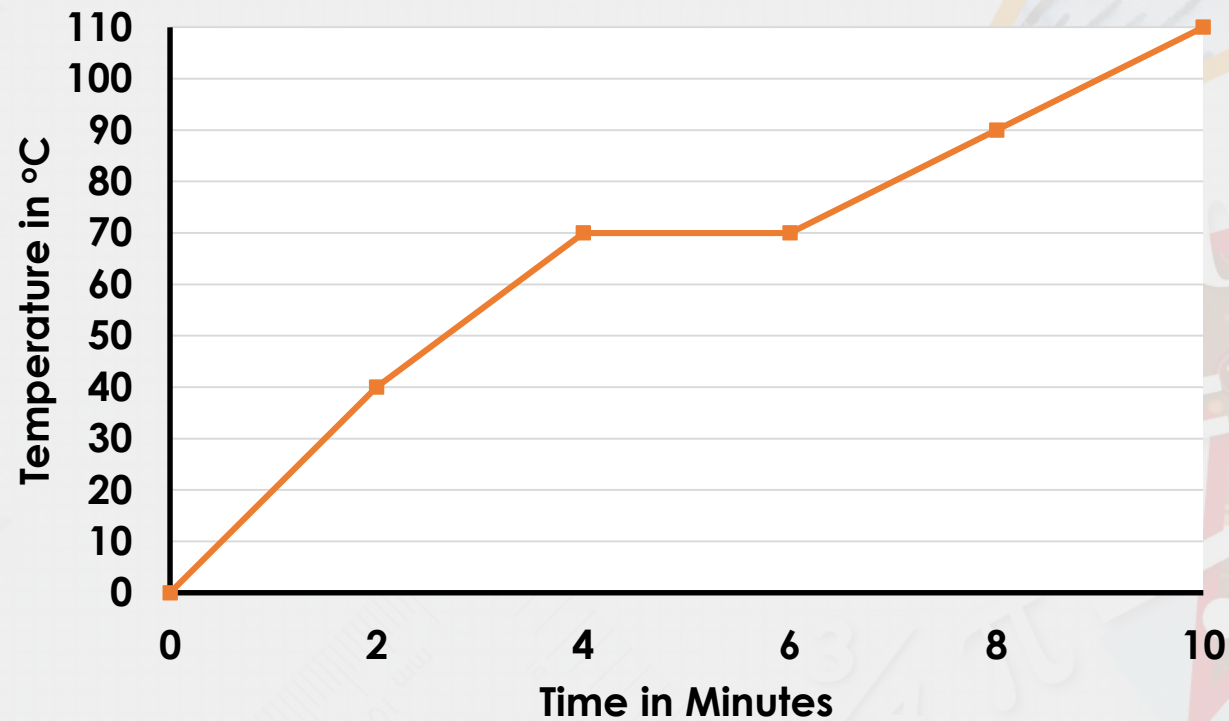
The quickest growth was between age **20** and **30**.

Varied Fluency 3

Use the data to complete the line graph.

Minutes	2	4	6	8	10
Temperature	40°	70°	70°	90°	110°

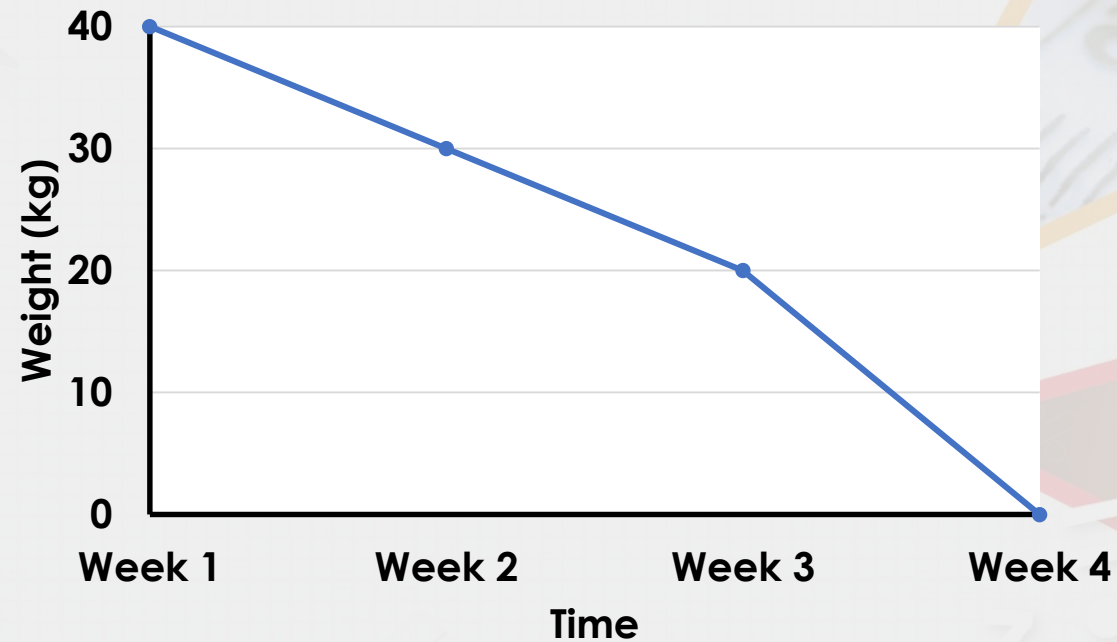
Temperature of an Oven



Reasoning 1

A vet says that Paulina's dog is too heavy and needs to lose weight. Paulina makes a line graph to show her dog's weight loss over a month. Is it correct? Explain your answer.

Weight of Dog

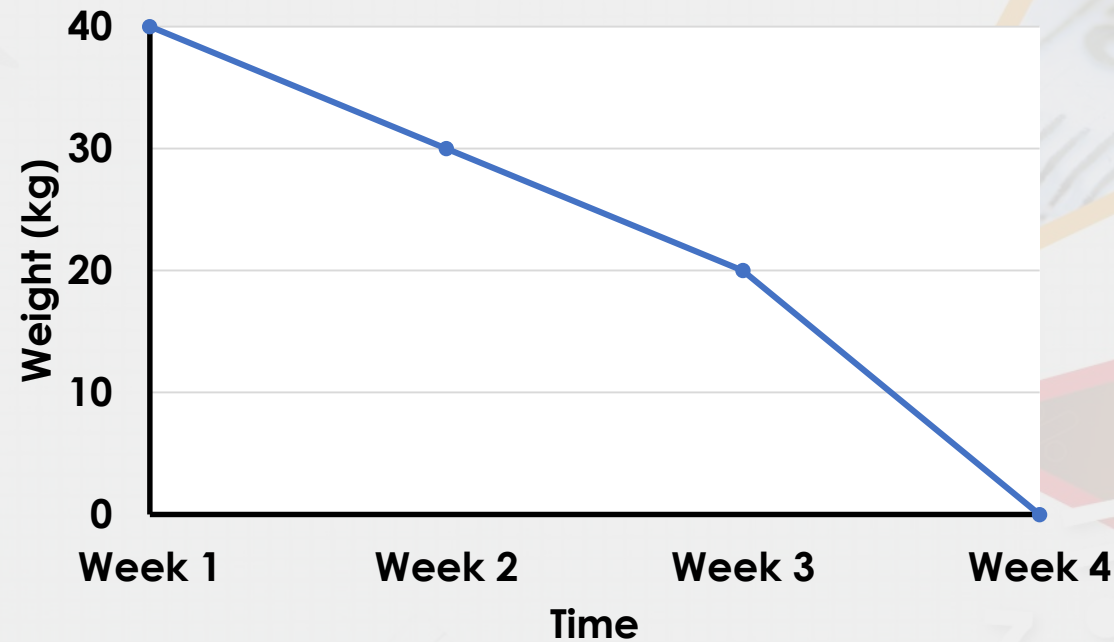


The line graph is not correct because ...

Reasoning 1

A vet says that Paulina's dog is too heavy and needs to lose weight. Paulina makes a line graph to show her dog's weight loss over a month. Is it correct? Explain your answer.

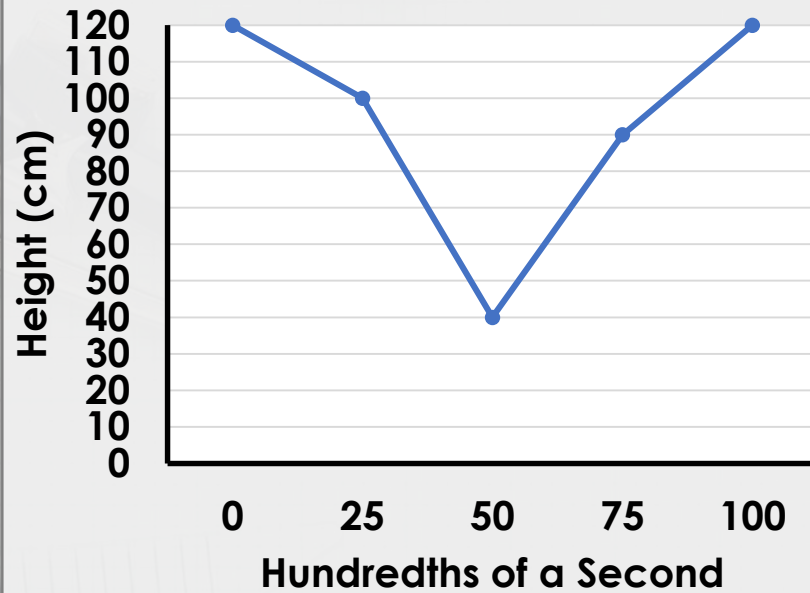
Weight of Dog



The line graph is not correct because a dog cannot weigh 0kg.

Reasoning 2

Height of a Gymnast's Head in Cartwheel



Hajra

The gymnast had finished in 1 second.

After 50 seconds her head was at its lowest point.



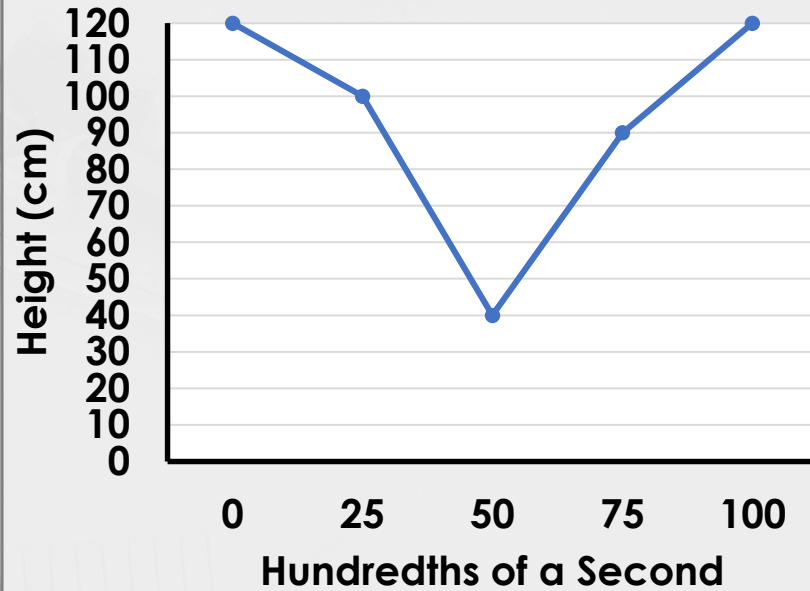
Ibrahim

Explain who is correct.

Hajra is correct because ...

Reasoning 2

Height of a Gymnast's Head in Cartwheel



Hajra

The gymnast had finished in 1 second.

After 50 seconds her head was at its lowest point.



Ibrahim

Explain who is correct.

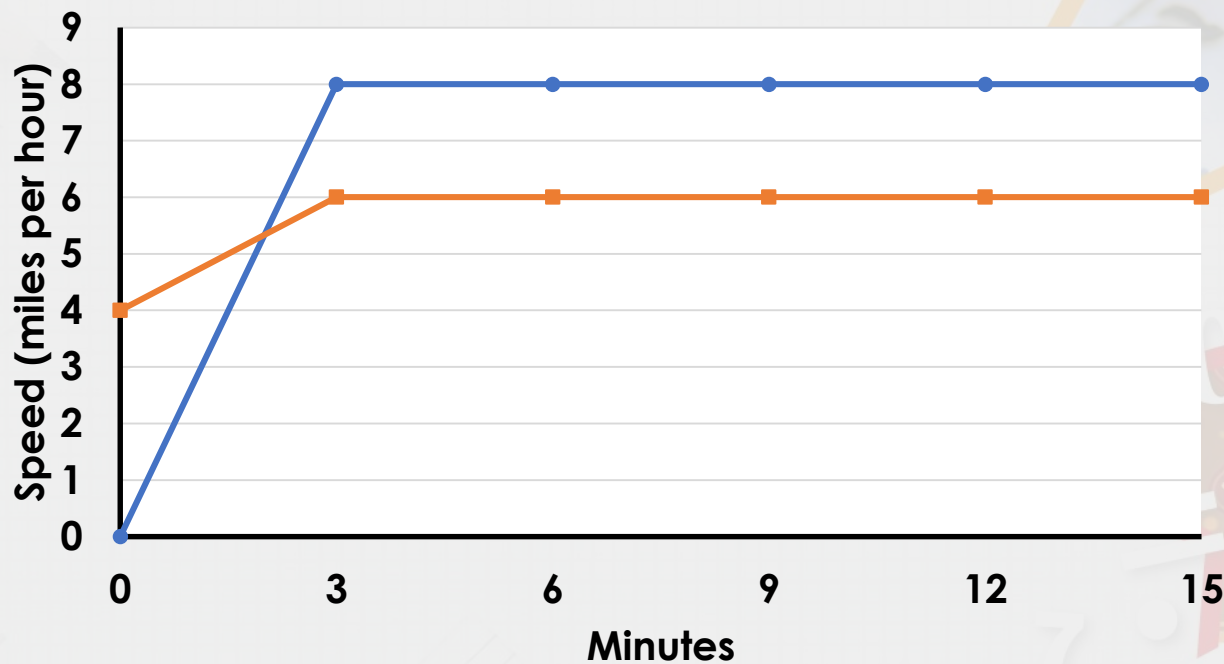
Hajra is correct because she has seen that the gymnast's head has returned to its full height after 100 hundredths of a second (which is one full second).

Ibrahim has mistaken 50 hundredths of a second for 50 seconds.

Problem Solving 1

The graph below tracks the flight of two birds. One shows a bird beginning a flight and the other is already in flight.

Which line below shows the bird beginning its flight?



The blue line shows the correct data for this scenario. It shows an increase in speed between 0 and 3 minutes which is then maintained as the bird continues flying.

Step 4 Answers

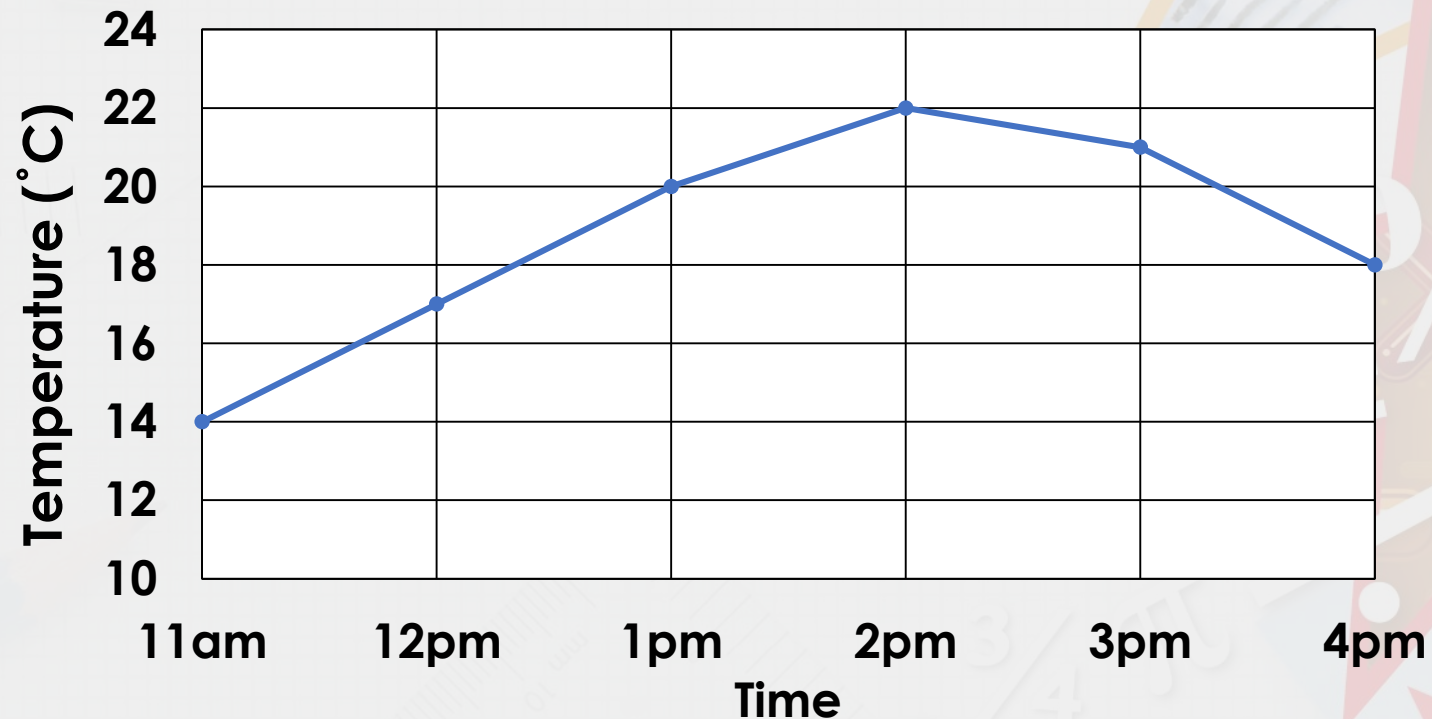
Introduction

Write three questions about this line graph.

Example answers:

1. What time was the hottest temperature recorded?
2. What was the temperature at 11am?
3. What was the lowest temperature in the afternoon?

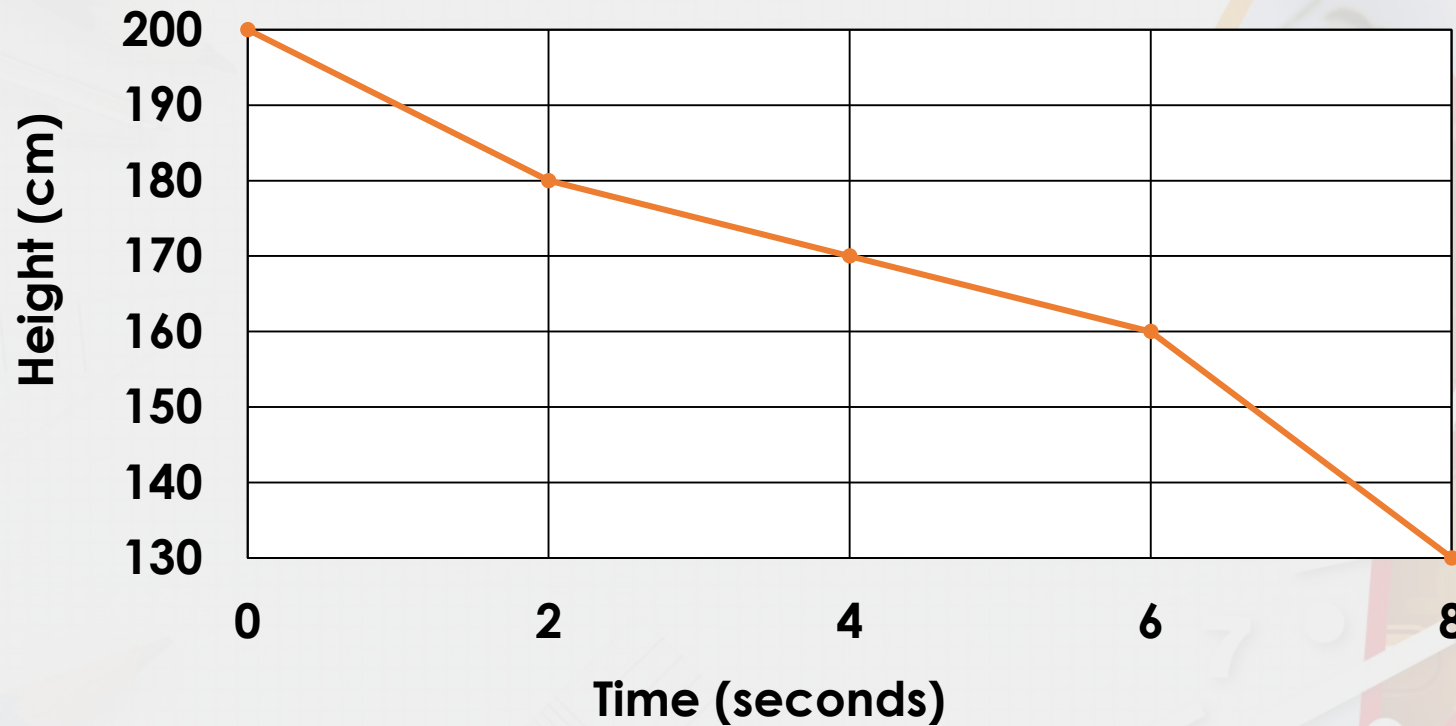
Temperature in our Classroom



Varied Fluency 1

How many centimetres did the parachute drop between 4 and 8 seconds?

Flight of a Toy Parachute



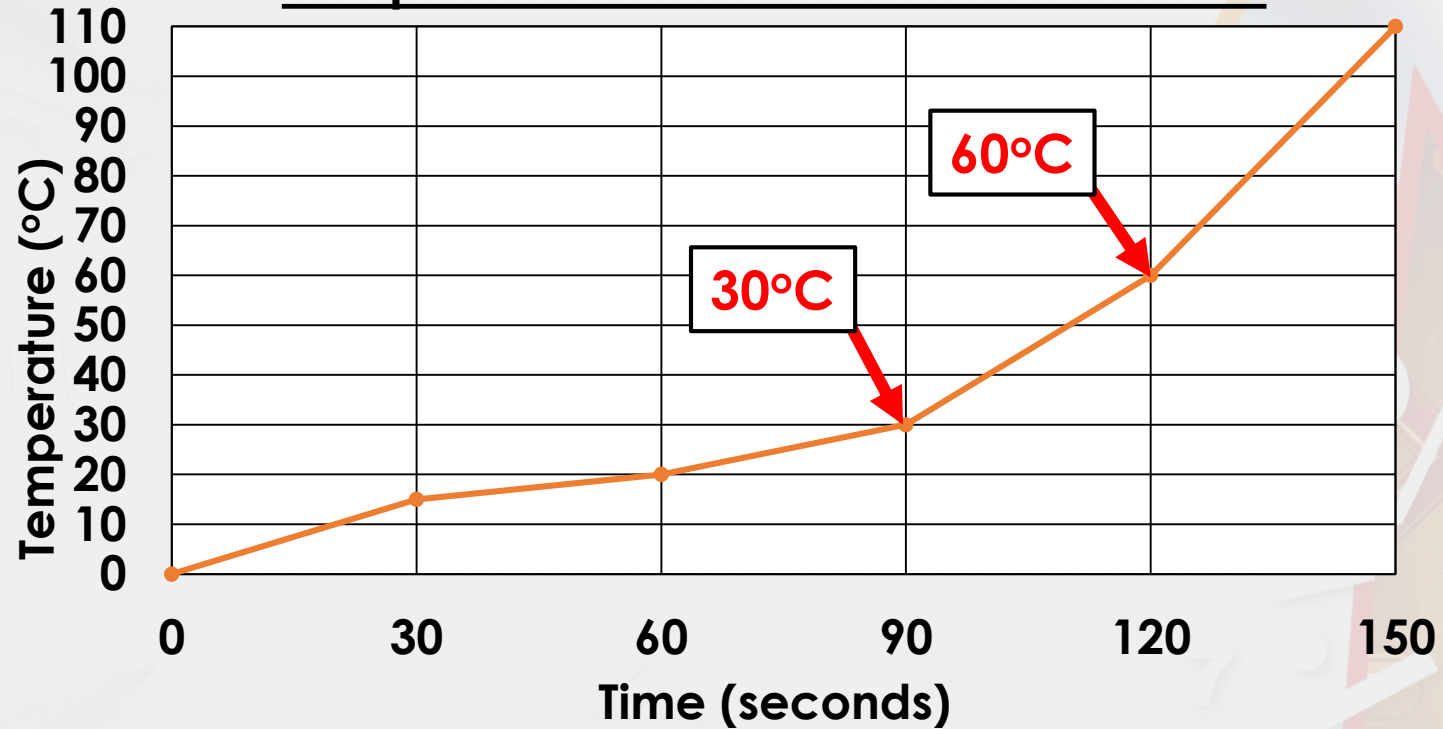
40 centimetres.

Varied Fluency 2

True or false?

The temperature at 90 seconds was half what it was at 120.

Temperature of Water in a Heated Pan

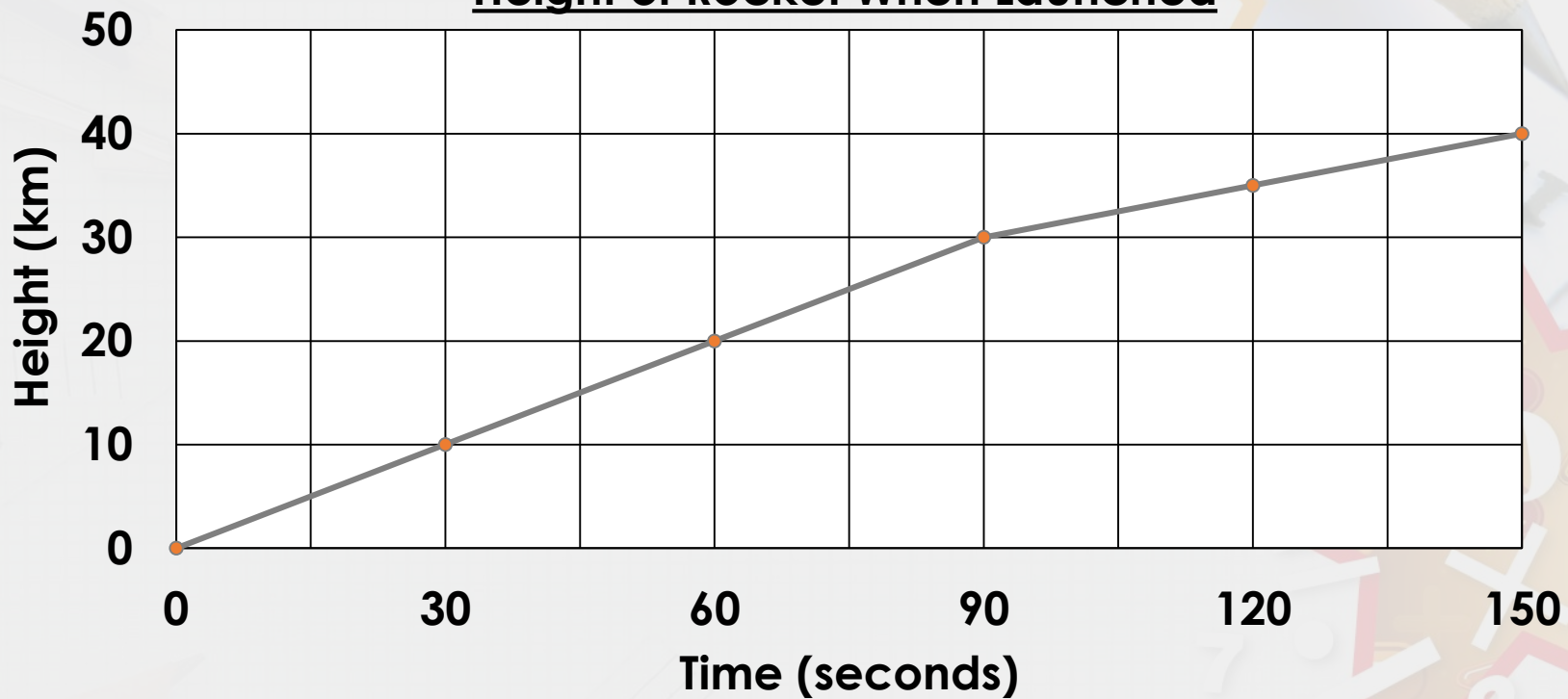


True

Varied Fluency 3

How many kilometres did the rocket travel between 90 and 120 seconds?

Height of Rocket When Launched



- | | | | |
|------|------|-----|------|
| 10km | 35km | 5km | 15km |
|------|------|-----|------|

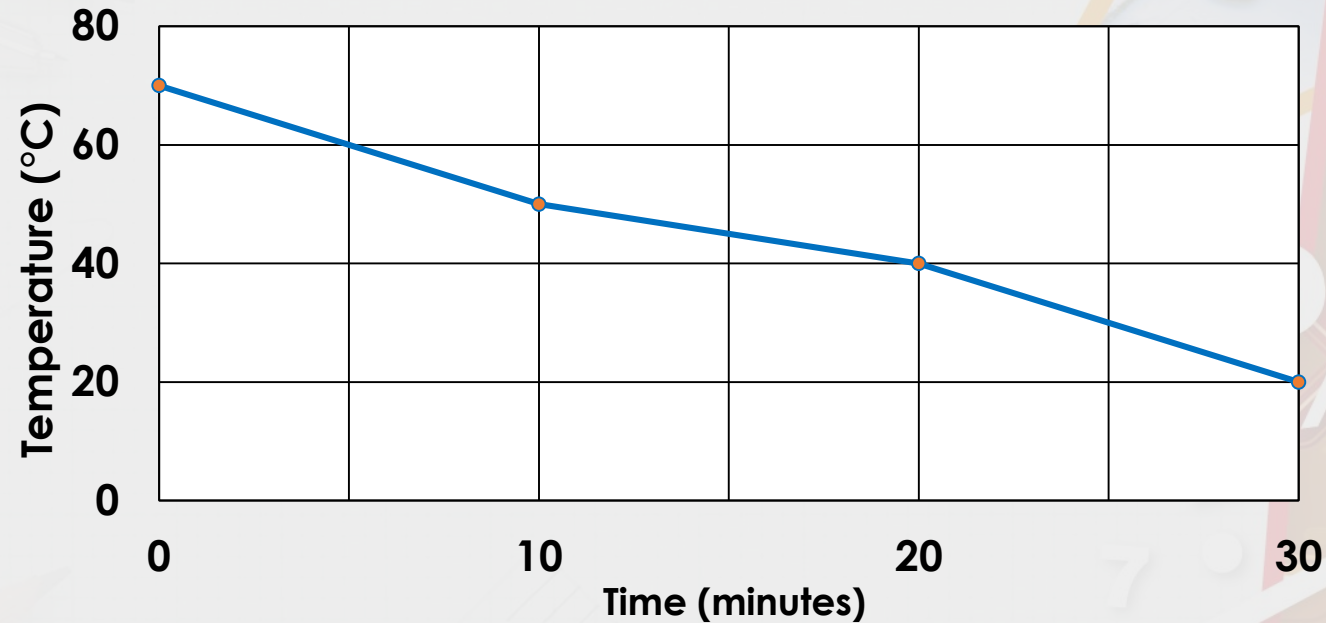
Reasoning 1

Sam is talking about the line graph below.



The difference between 10 and 30 minutes is 25°C .

Temperature of a Radiator Once Switched Off



Is Sam correct? Explain why.
Sam is not correct because...

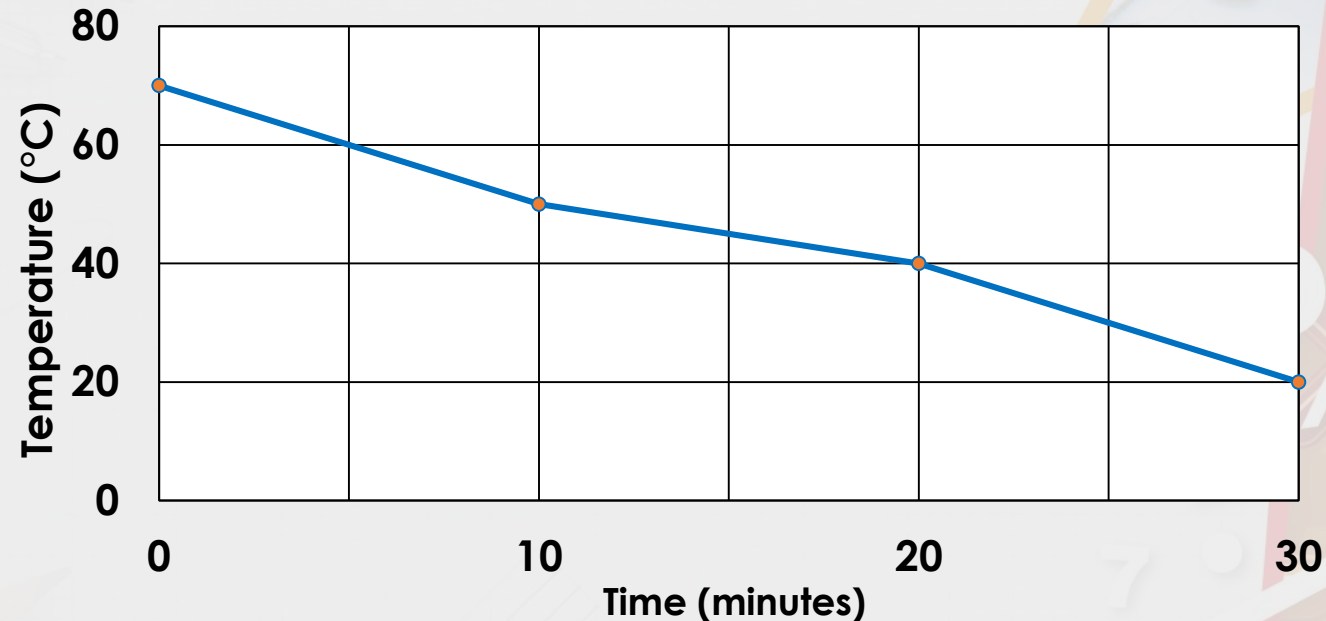
Reasoning 1

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Temperature of a Radiator Once Switched Off

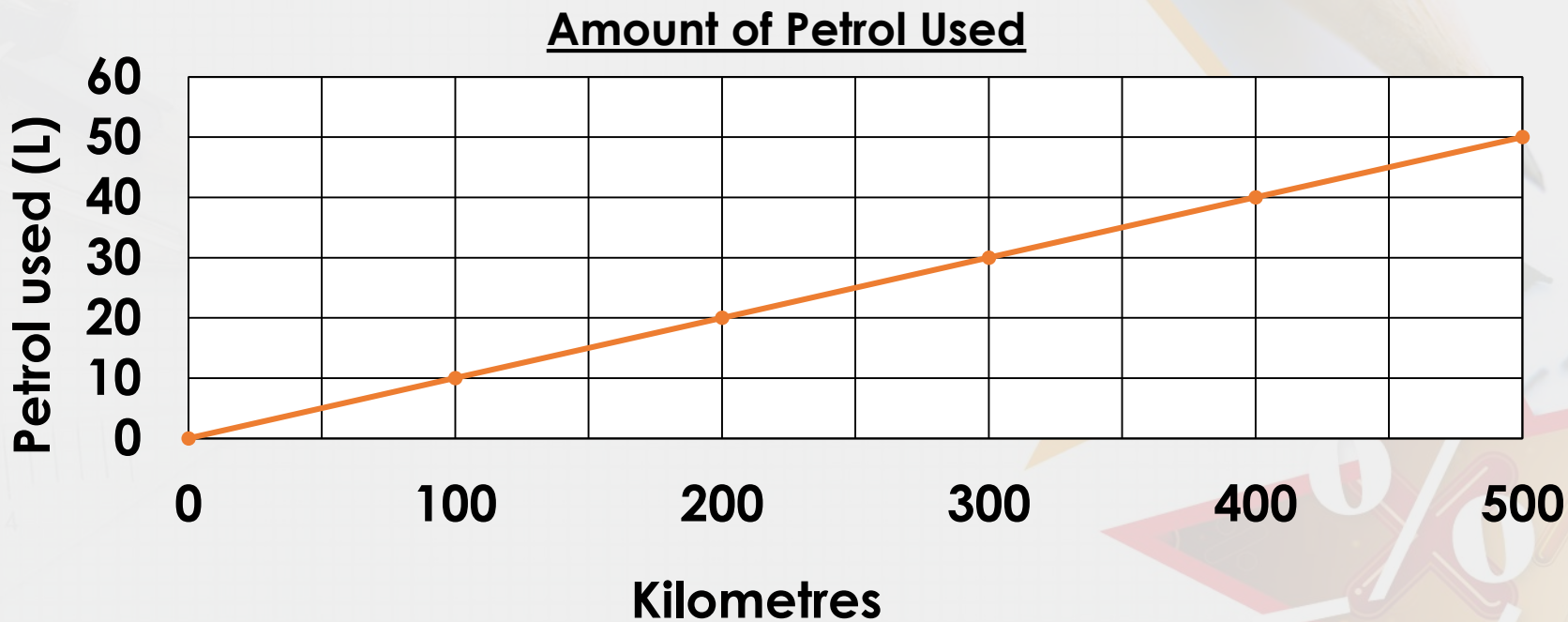


Is Sam correct? Explain why.

Sam is not correct because at 10 minutes it was 50°C and at 30 minutes it is 20°C . $50 - 20 = 30^{\circ}\text{C}$.

Problem Solving 1

Use the graph to complete the sentence.



Between _____ and _____, the difference in the number of litres used is 20 litres.

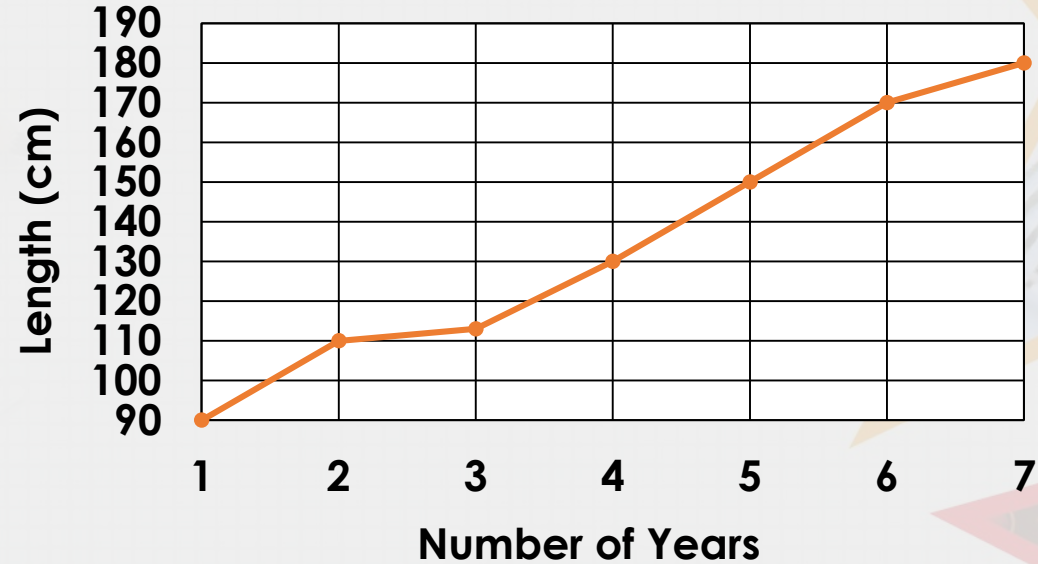
Find all the possible answers.

0km – 200km; 100km – 300km; 200km – 400km; 300km – 500km

Reasoning 2

In which year is it most likely that a disease struck the tree?

Height of an Apple Tree



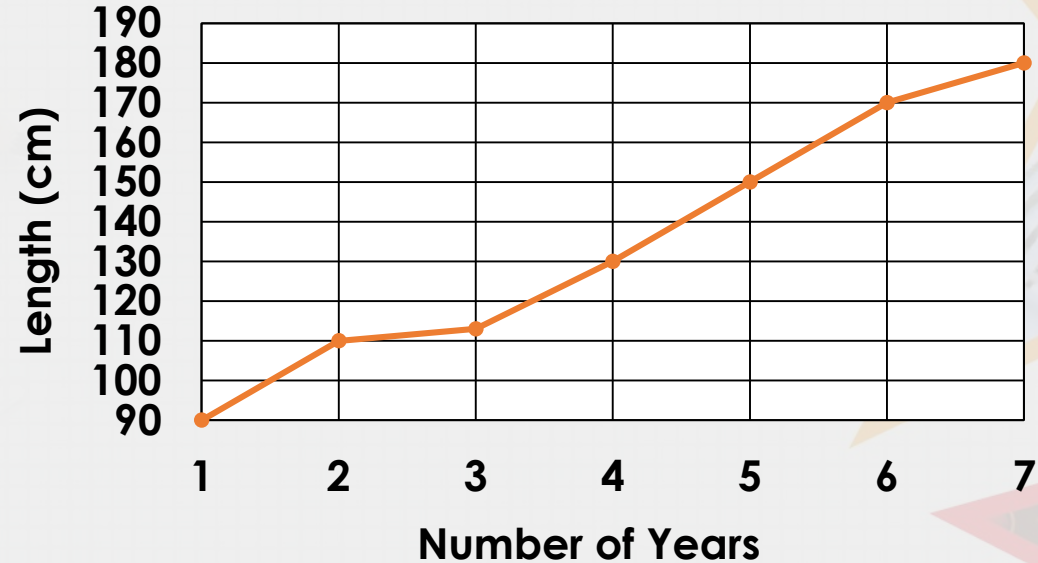
Explain your answer.

Year 2 is the most likely because...

Reasoning 2

In which year is it most likely that a disease struck the tree?

Height of an Apple Tree



Explain your answer.

Year 2 is the most likely because the tree stops growing as rapidly as the other years.

Year 6 also sees a decline in growth, but still grows faster than in year 2.