June 26, 2020

Year 6

Academic Year: 2019 - 2020

Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | **Year 6**

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number: Place Value		Number: Addition, Subtraction, Multiplication and Division				Number: Fractions				Geometry: Position and Direction	Consolidation
Spring	Number: Decimals		Number: Percentages		Number: Algebra		Measurement: Converting Units	Measurement: Perimeter, Area and Volume		Number: Ratio		Consolidation
Summer	Geometry: Properties of Shape		Problem Solving			Statistics		Investigations				Consolidation

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Summer 2020

Monday 8th June 2020 - Friday 17th July 2020

Summer	Geometry: Properties of Shape	Problem Solving	Statistics	Investigations	Consolidation

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Summer II 2020

Learning Content for Weekly Planning

Overview

Small Steps

Read and interpret line graphs	Week V (29.06.20 - 03.07.20)
Draw line graphs	Week V (29.06.20 - 03.07.20)
Use line graphs to solve problems	Week V (29.06.20 - 03.07.20)
Circles	Week V (29.06.20 - 03.07.20)
Read and interpret pie charts	Week VI (06.07.20 - 10.07.20)
Pie charts with percentages	Week VI (06.07.20 - 10.07.20)
Draw pie charts	Week VI (06.07.20 - 10.07.20)
The mean	Week VI (06.07.20 - 10.07.20)

NC Objectives

Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.

Interpret and construct pie charts and line graphs and use these to solve problems.

Calculate the mean as an average.

29.06.20

LO: to read and interpret data from line graphs, using it to solve problems in context.

Starting Tasks (7-8 mins):

1. Green Pen Task: Respond to Marking

2. Master Mathematician

3. Mathemagician

Success Criteria

- to understand the purpose and everyday use of line graphs
- to read data from line graphs and retrieve information from them
- to interpret data from line graphs to solve problems in context.

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Master Mathematician

Stick the following questions into your book and calculate the answer, showing your working out.

Challenge A

Topics include:

- balancing equations
- solving algebraic equations
- measurement
- missing number problems
- calculating time intervals

Challenge B

Topics include:

- long division
- algebraic substitution
- mixed numbers and improper fractions
- missing number problems
- calculating time intervals

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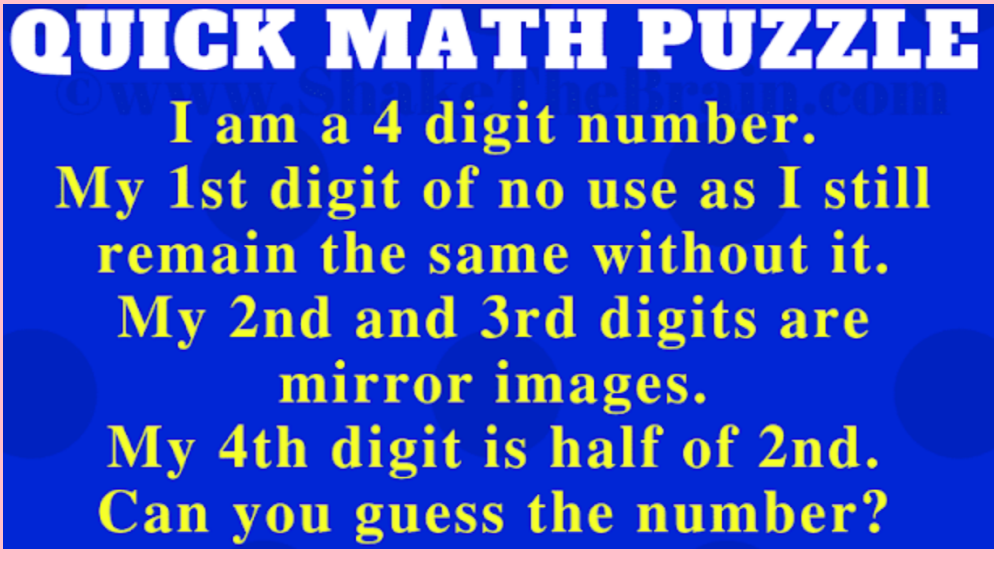
#Mathemagician

Riddle Me This...



Remember to write down and explain your reasoning behind your response.

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What are graphs?

In your own words, explain the following:

- what is the purpose of a graph?
- features of a graph
- examples of different graphs that you have come across
- where have you used/seen graphs in everyday life

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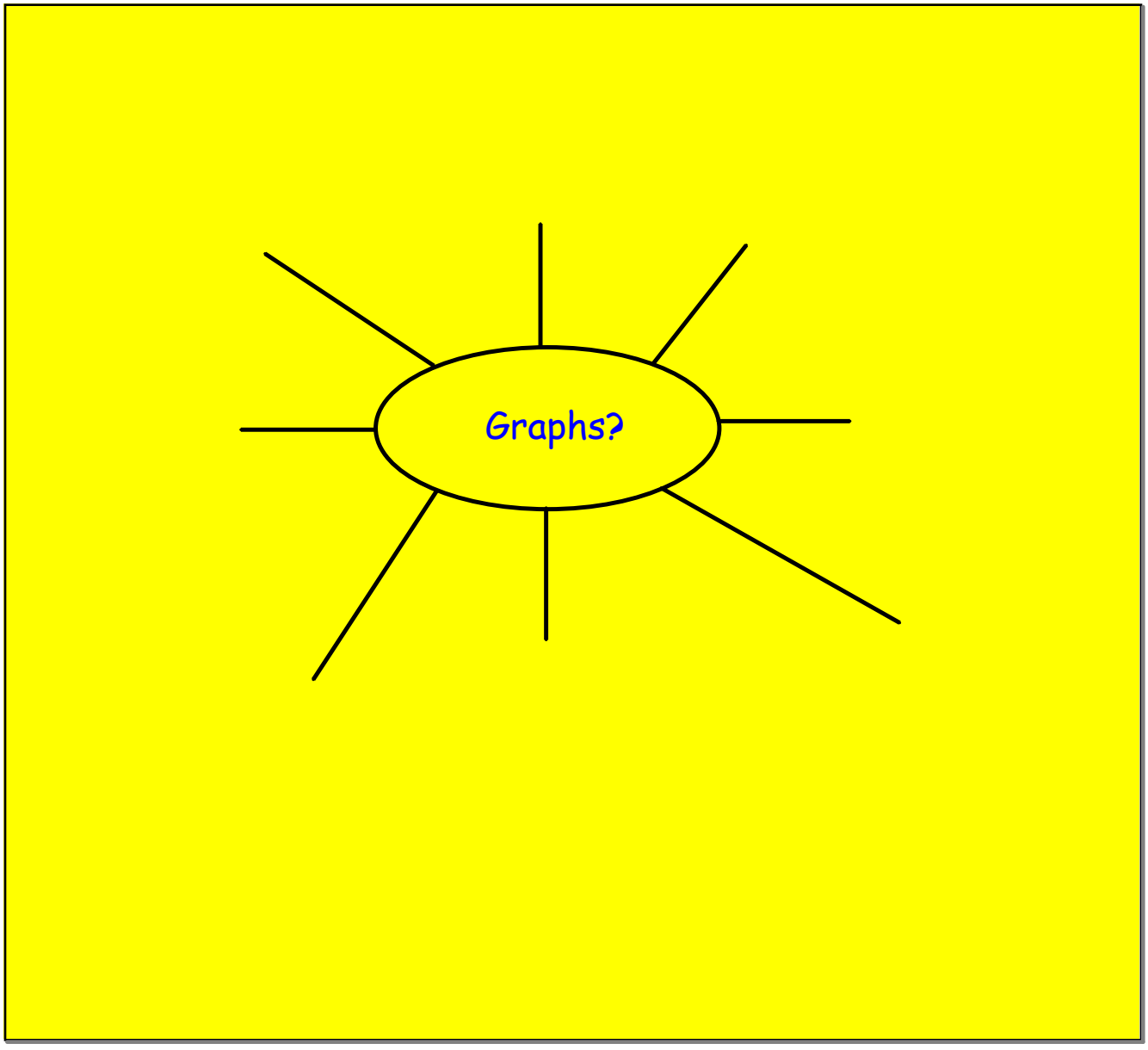

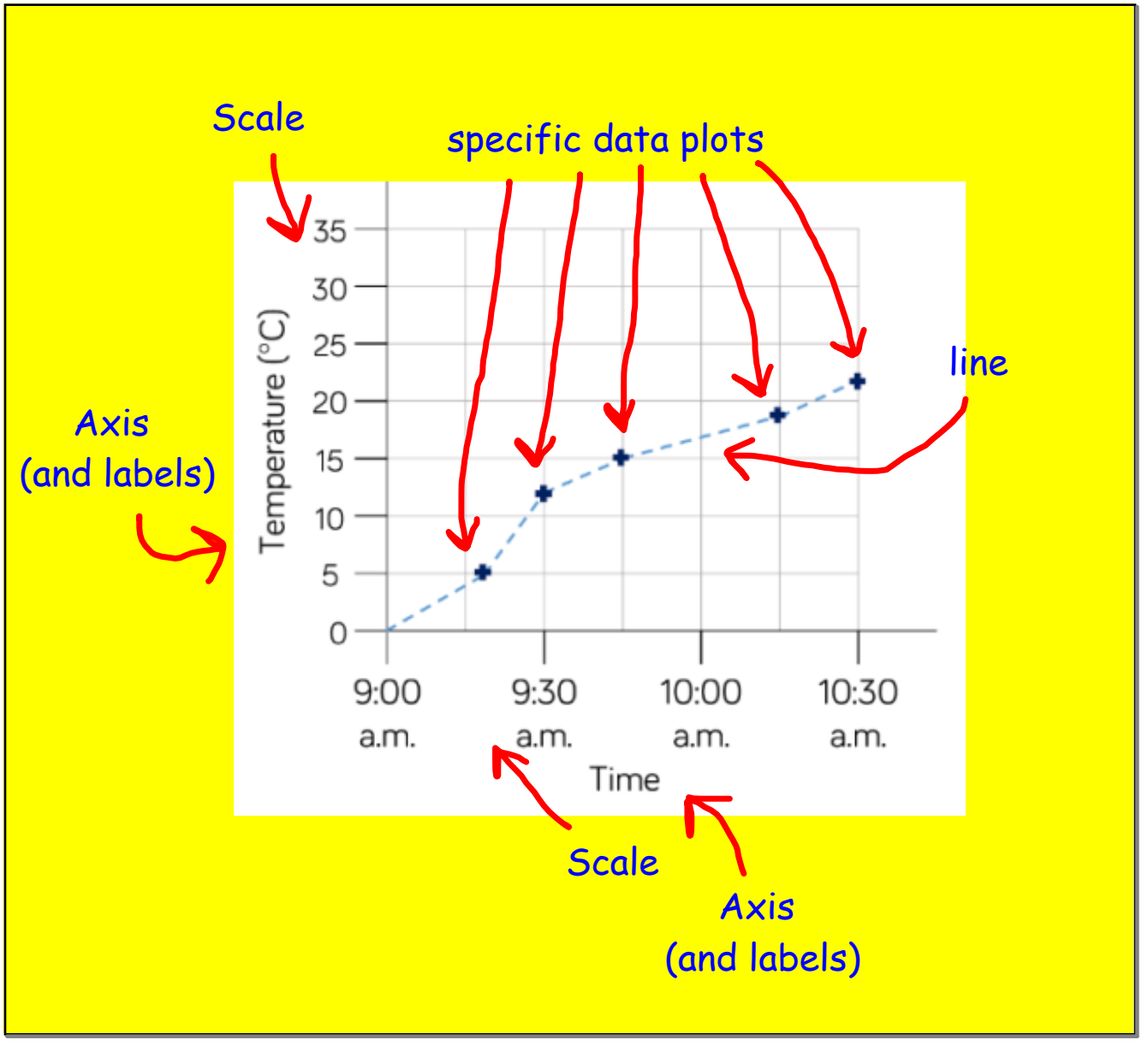
Scale
specific data plots
line
Axis
(and labels)
Temperature (°C)
35
30
25
20
15
10
5
0
9:00
a.m.
9:30
a.m.
10:00
a.m.
10:30
a.m.
Time
Scale
Axis
(and labels)

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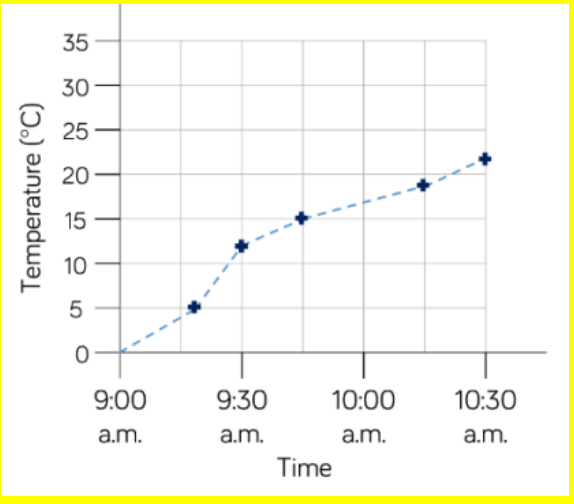
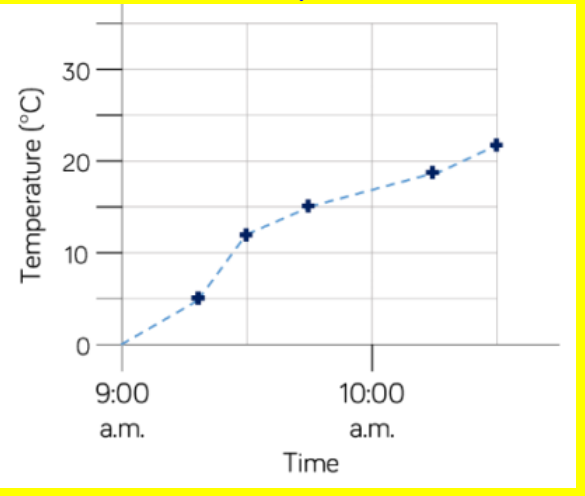
What are the differences between each graph?

Graph A



Graph B



EXT: which graph do you feel is more accurate to follow?

Explain your reasoning.

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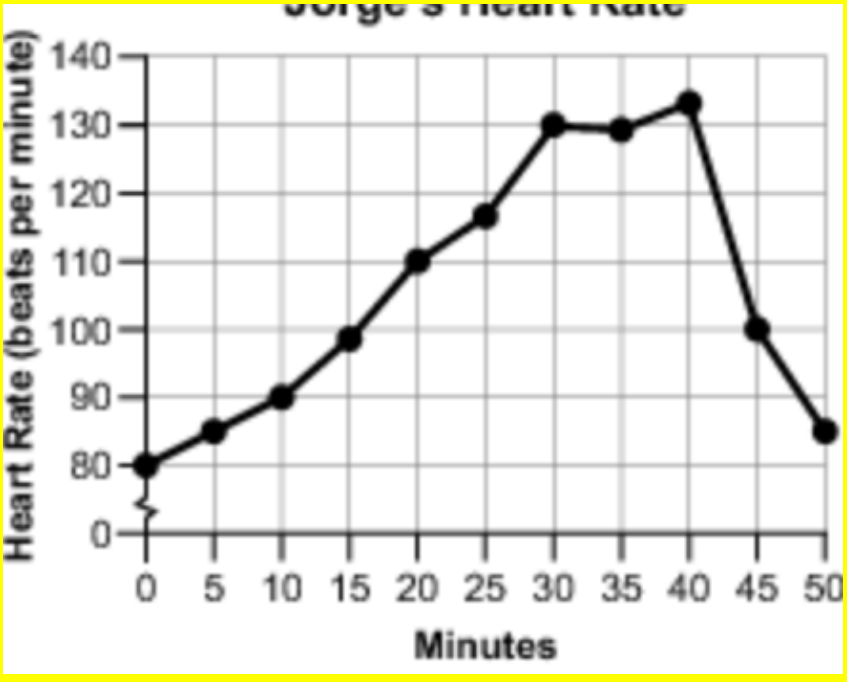
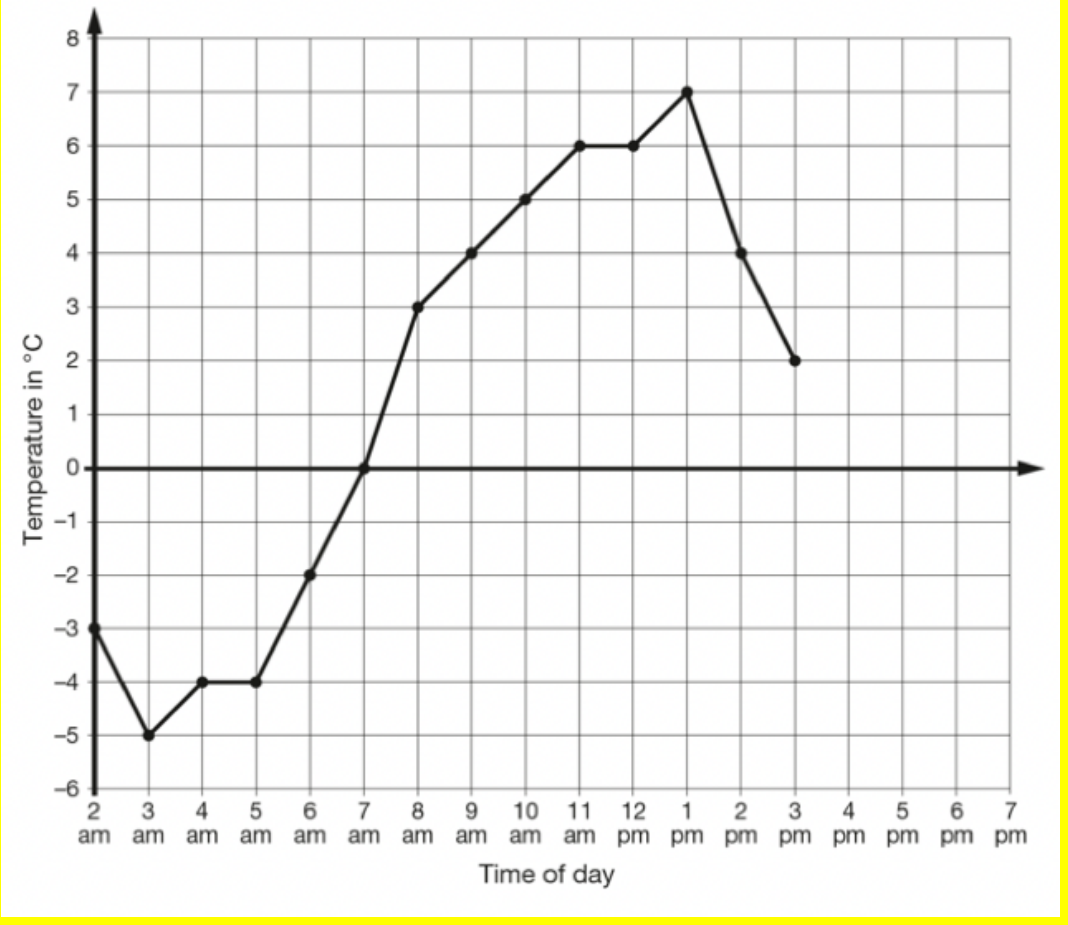
Story Time...



Create your own story based on this line graph - remember to be creative and realistic, using the data points as a reference.

Retrieve, Retrieve, Retrieve...

These questions just require you to take the information from the graph as it is.



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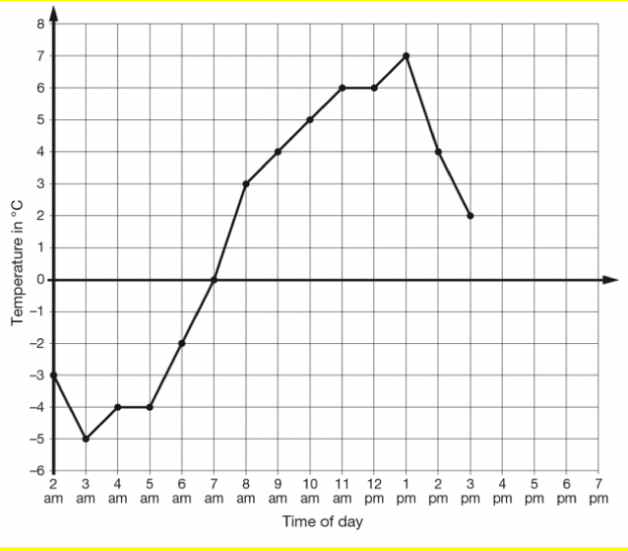
#TalkForMaths



Questions:

1) At what time was the coldest temperature recorded?
   How do you know?

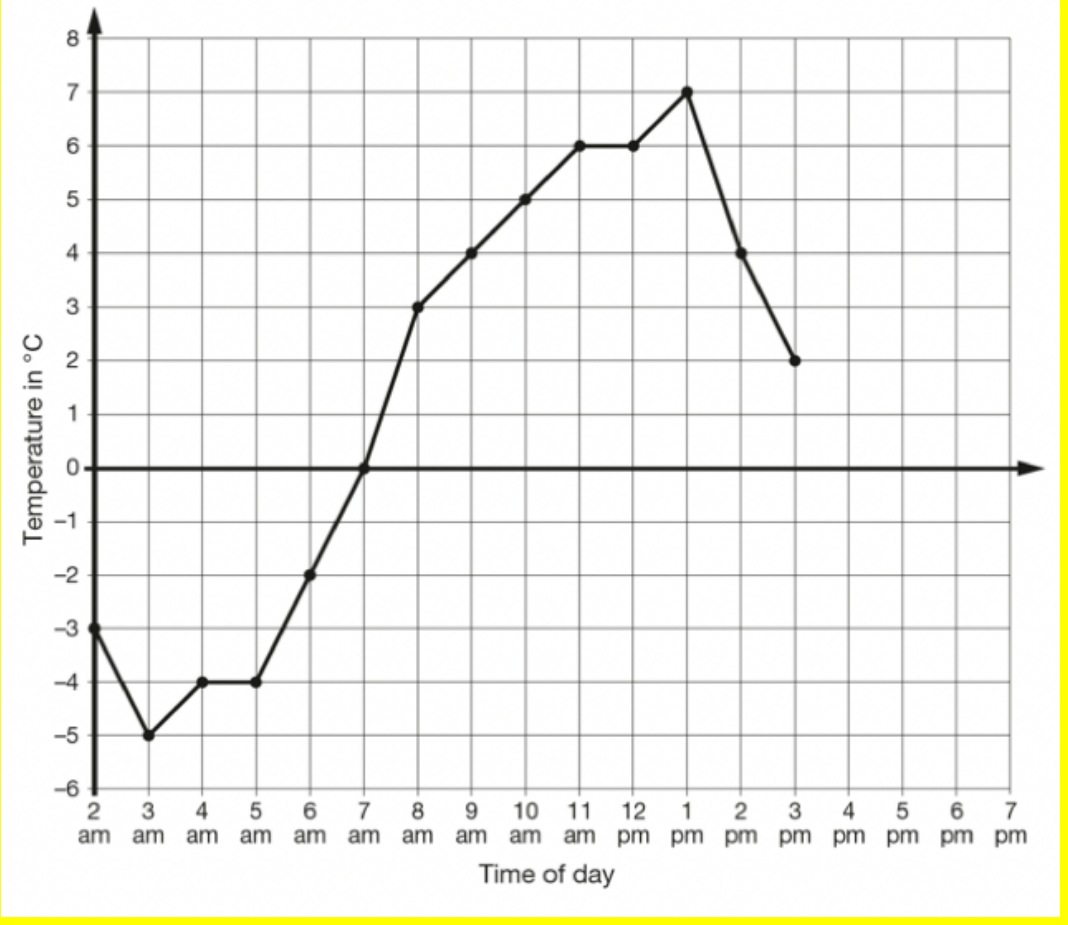
2) At what time was the hottest temperature recorded?
   How do you know?

3) Between what times was the temperature recorded?
   How many hours was this?

4) What was the temperature at midday?

Interpret and Infer

These questions require you to interpret and use the information on the graph to solve other problems.



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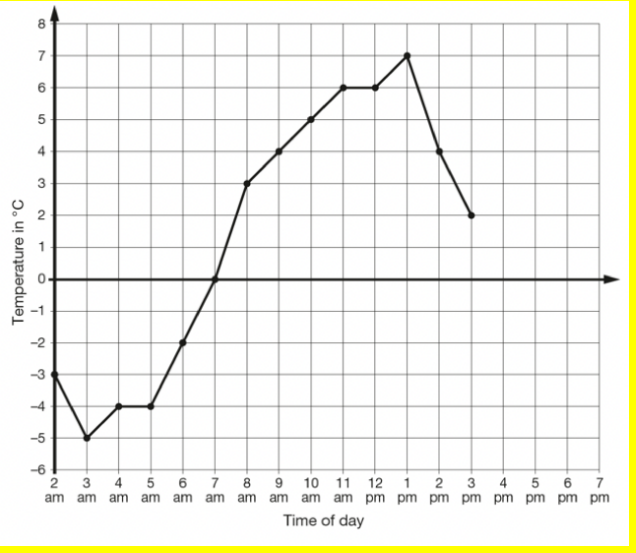
#TalkForMaths



Questions:

1) How many degrees was it warmer at 3pm than 3am?

2) At 6pm, the temperature was 5 degrees colder than at 8am. Continue to draw the line to show this change.

3) Between what time(s) did the temperature stay the same? Explain how you know using the graph.

4) What do you think this graph is recording? Explain your reasoning.

5) Predict the temperature recordings for the remainder of the day? Explain your reasoning.

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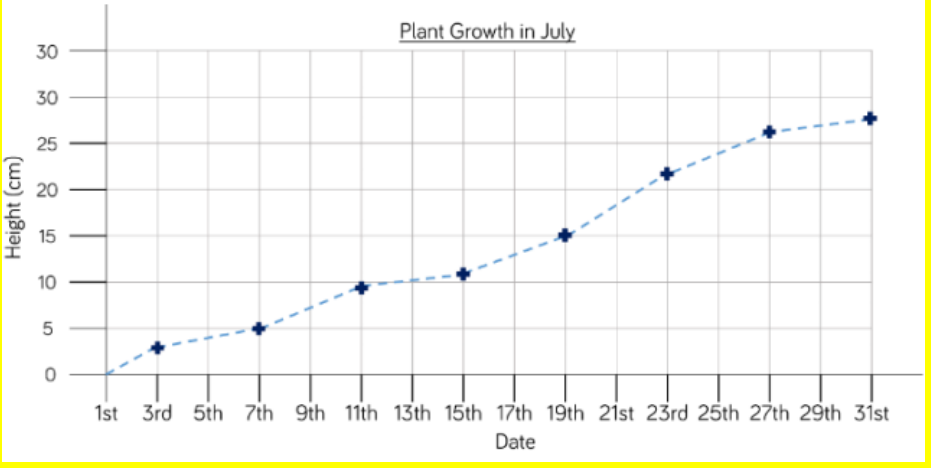
#IndependentLearning

Questions:

Stick the line graph and accompanying questions into your book, then answer the questions (writing in full sentences or showing your working out) - make sure you include your units (°C) or other measurements.

Eva has created a graph to track the growth of a plant in her house.



Here are following statements about the graph:

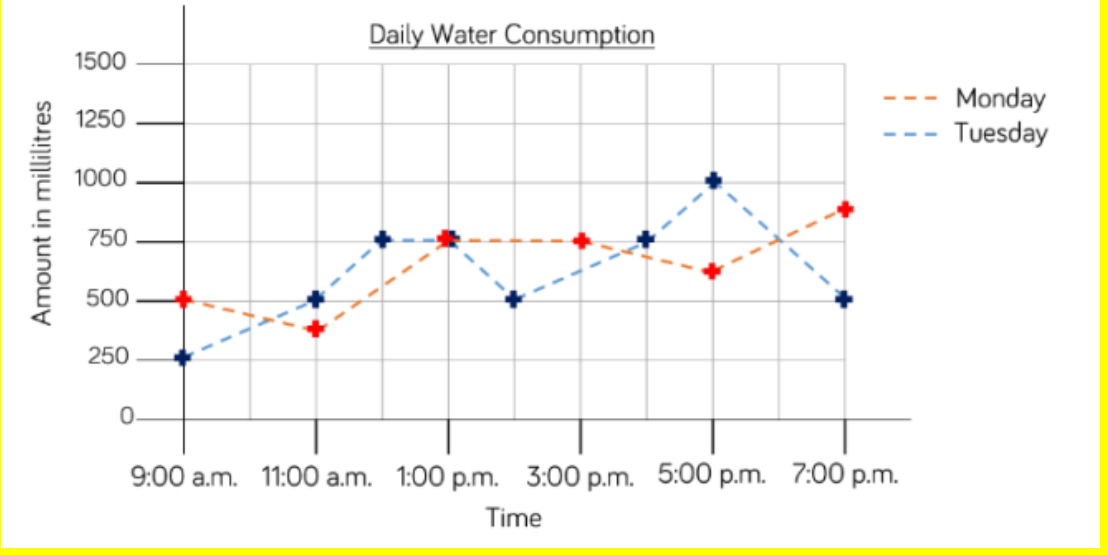
A) On the 9th of July the plant was about 9 cm tall.

B) Between the 11th and 19th July the plant grew about 5 cm

C) At the end of the month, the plant was twice as tall as it had been on the 13th.

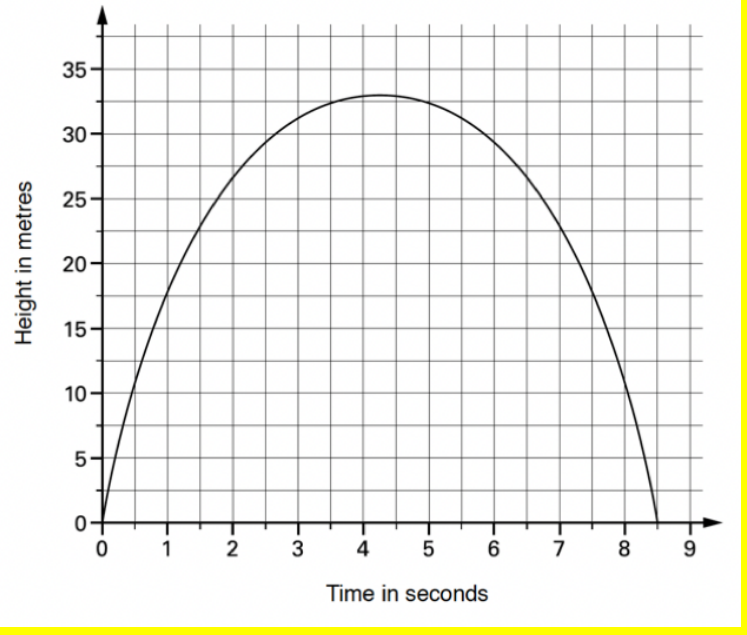
Can you spot and correct Eva's mistakes?

What is different about this graph and the ones you have worked with?



QUESTION:

Which scenario do you think is most appropriate to describe this graph?



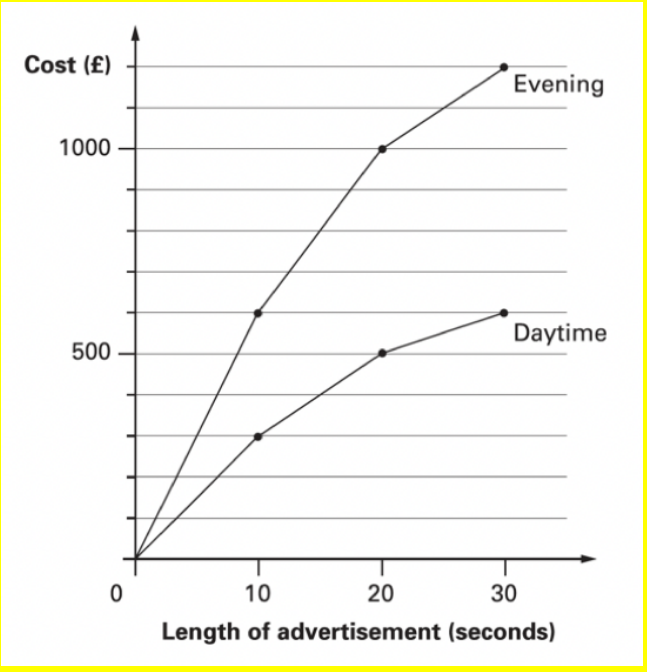
A) The height that fireworks rise up to.

B) A child's attempt at a high-rider in a funfair.

C) The height of a wave in the sea

Explain your reasoning.

DEBATE: Do you think it is better to advertise in the daytime or evening?



Explain your reasoning and provide mathematical examples to support your opinion.

30.06.20

LO: to collate data and present it in the form of a line graph, using sensible scales and readings.

Starting Tasks (7-8 mins):

1. Green Pen Task: Respond to Marking

2. Master Mathematician

3. Mathemagician

Success Criteria

- to know what a polygon is
- to identify a specific polygon based on their properties
- to understand the relationship between the number of sides and the sum of interior angles

June 26, 2020

Am I a Master of My Maths?

Stick the following questions into your book and calculate the answer, showing your working out.

Challenge A

Topics include:

- balancing equations
- solving algebraic equations
- measurement
- missing number problems
- calculating time intervals

Challenge B

Topics include:

- long division
- algebraic substitution
- mixed numbers and improper fractions
- missing number problems
- calculating time intervals

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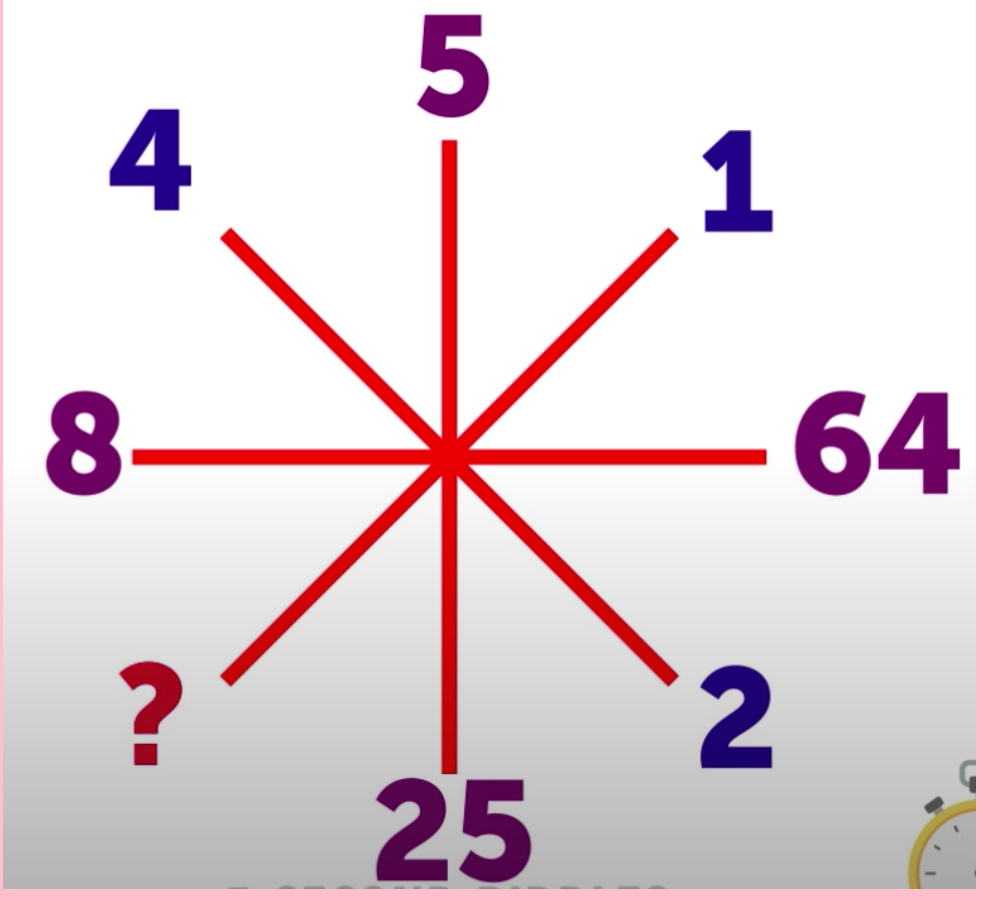
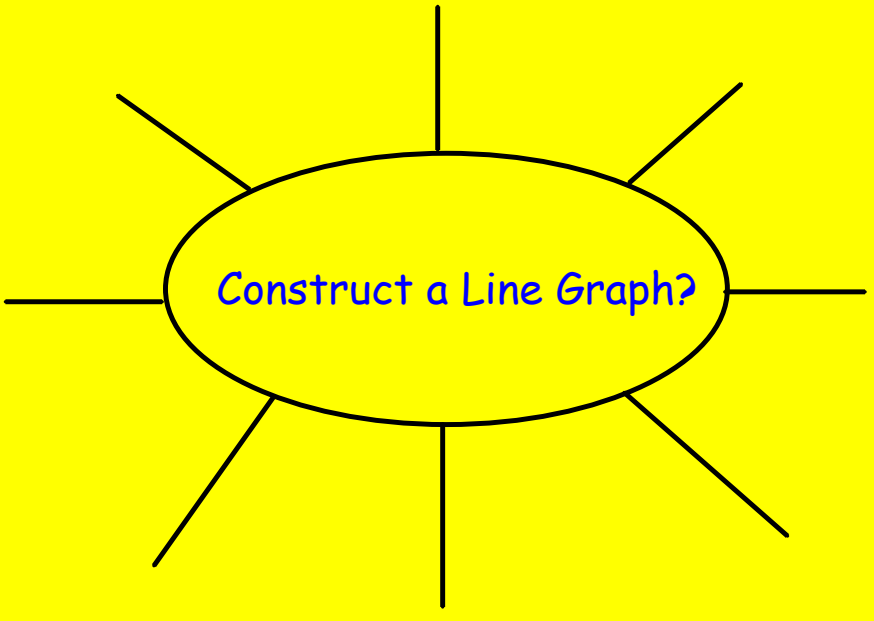
#Mathemagician

Riddle Me This...



Remember to write down and explain your reasoning behind your response.

What do you need to consider/include when drawing a line graph?



Constructing a Line Graph:

1. Decide which label goes onto which axis

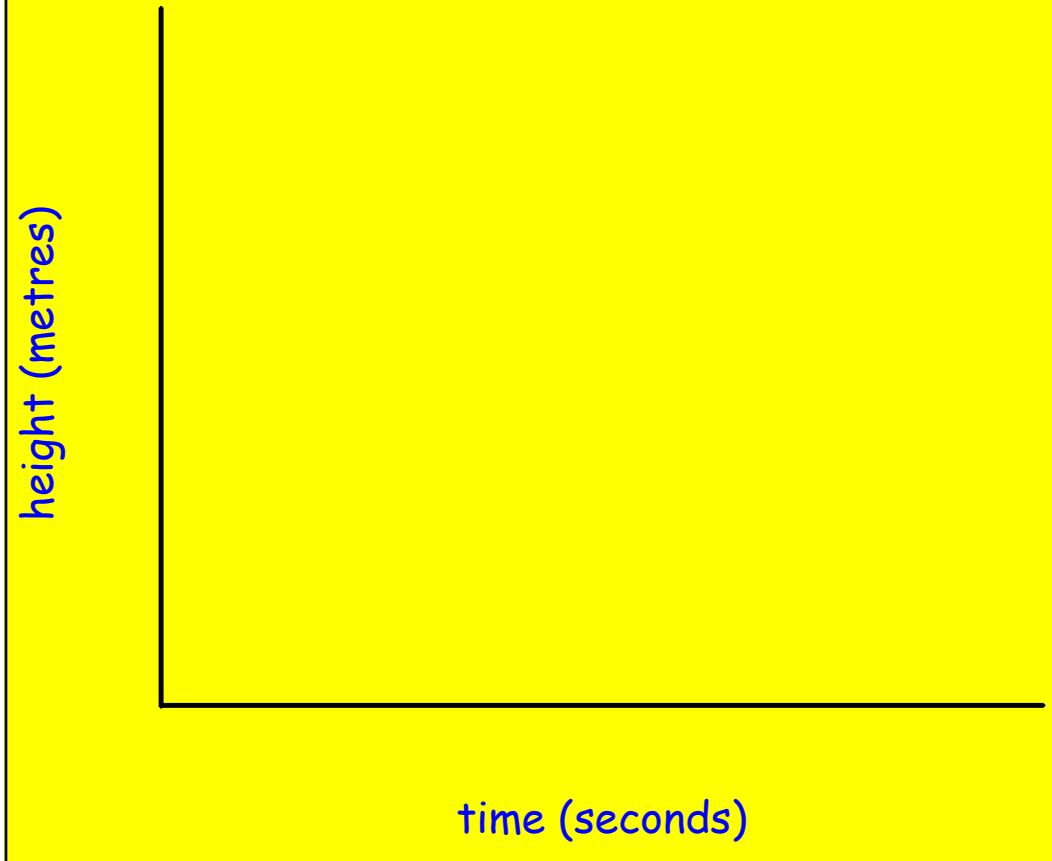
2. Use the data to create an appropriate scale (e.g. steps of 1, 5 or 10)

3. Plot the data onto the graph carefully using the information given

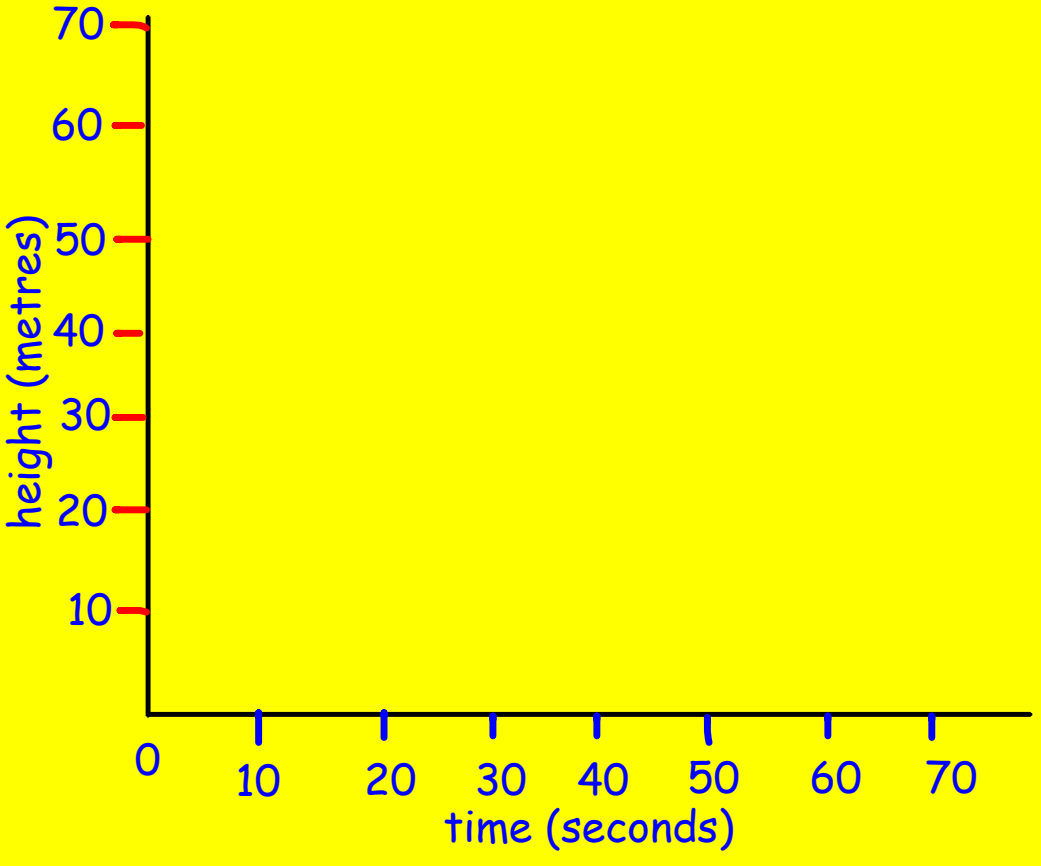
4. Draw the line accurately using a ruler.

Time (seconds)	Height (metres)
0	0
10	8
20	15
30	25
40	37
50	50
60	70

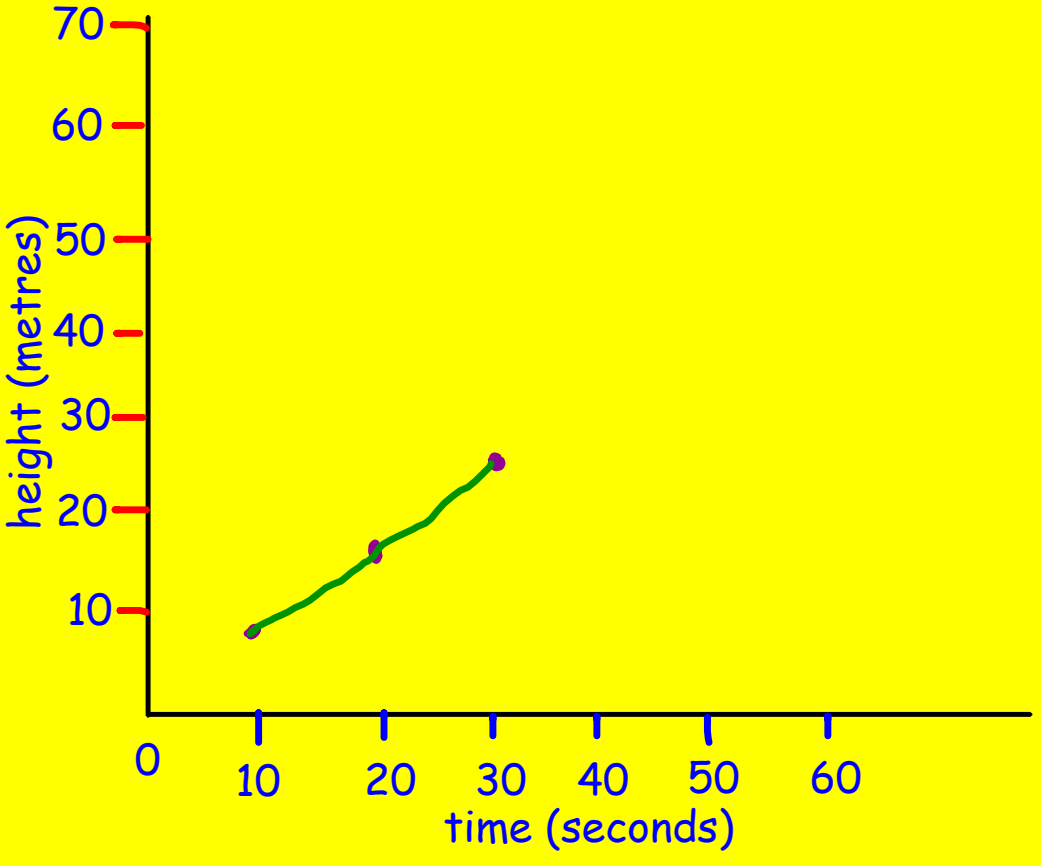
1. Decide which label goes onto which axis



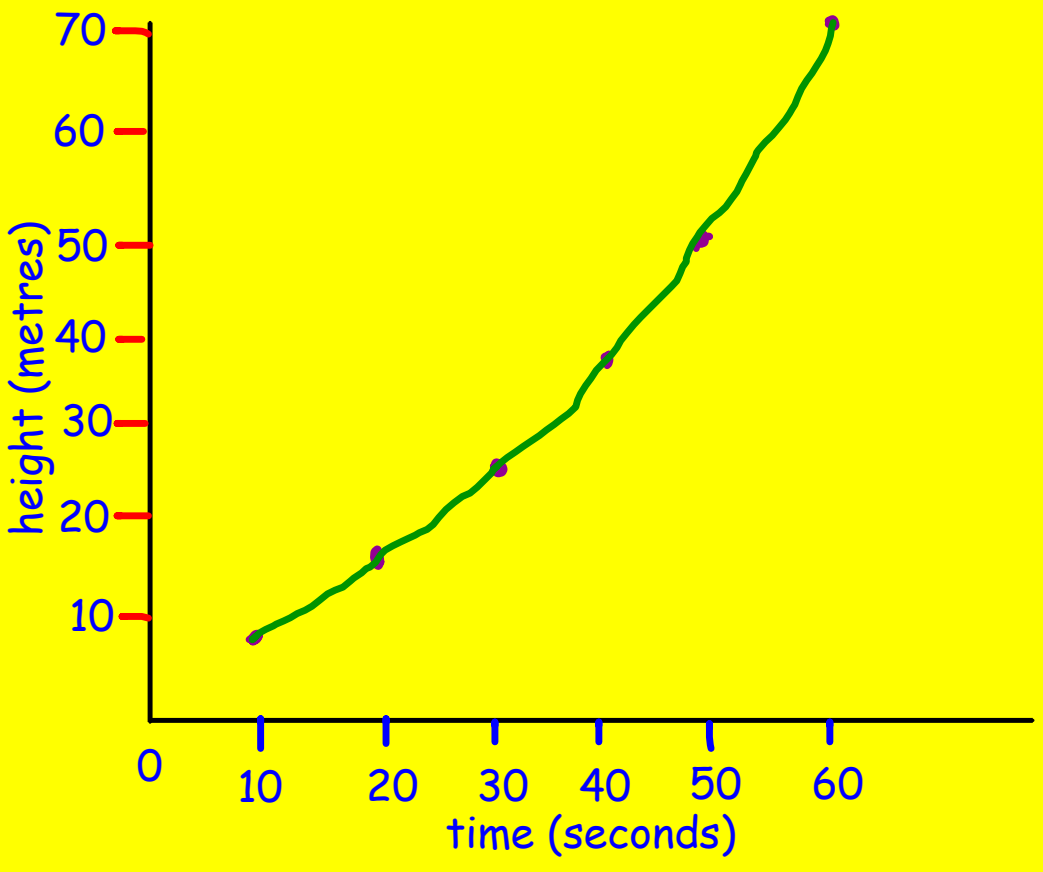
2. Use the data to create an appropriate scale (e.g. steps of 1, 5 or 10)



3. Plot the data onto the graph carefully using the information given



4. Draw the line accurately using a ruler.



Usain Bolt's Olympic Record

1. Decide which label goes onto which axis
2. Use the data to create an appropriate scale (e.g. steps of 1, 5 or 10)
3. Plot the data onto the graph carefully using the information given
4. Draw the line accurately using a ruler.

Usain's Performances

Time (seconds)	Distance (metres)
1	11
2	19
3	31
4	42
5	51
6	67
7	80
8	92
9	100

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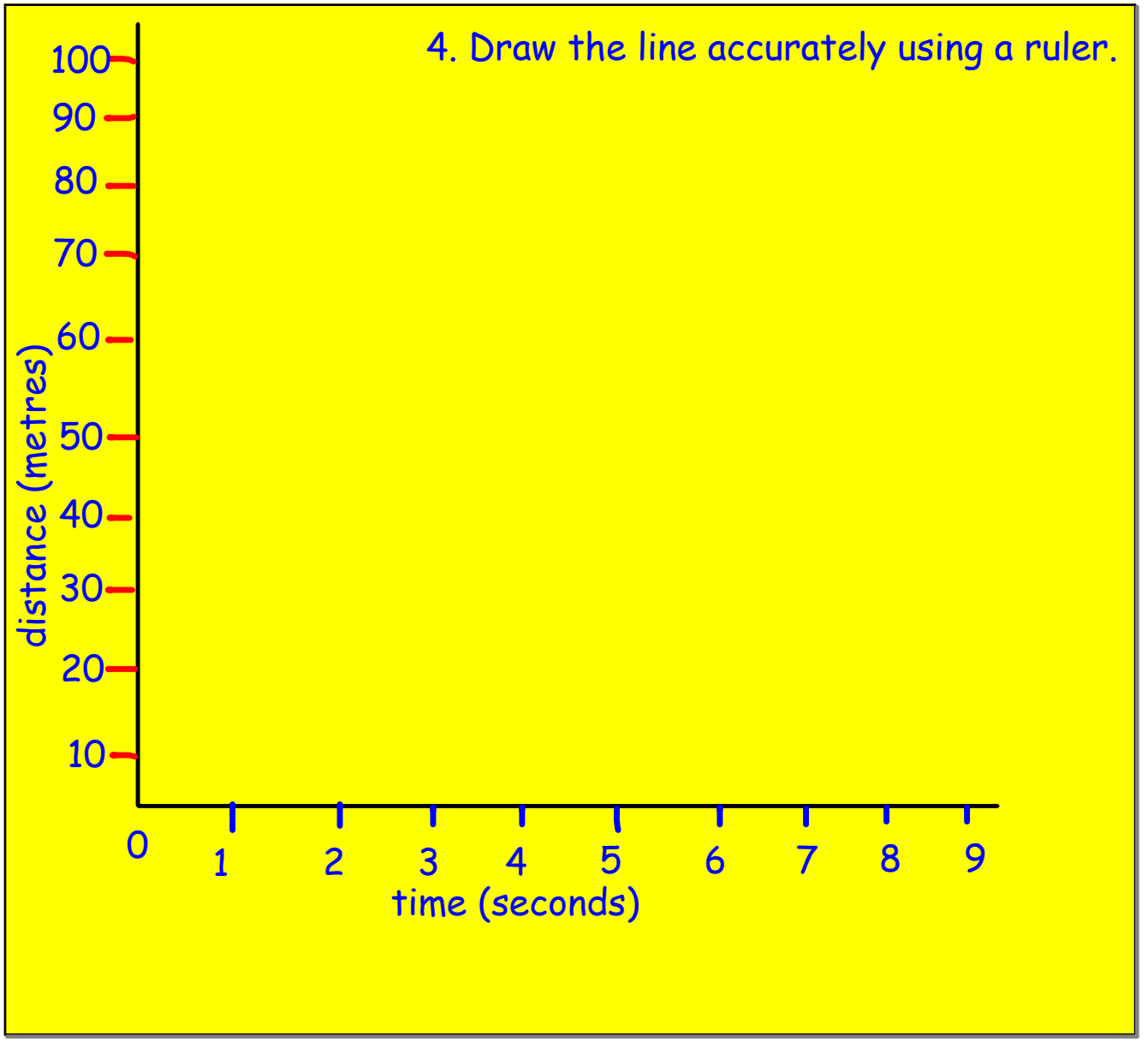
4. Draw the line accurately using a ruler.
100
90
80
70
60
50
40
30
20
10
distance (metres)
0
1
2
3
4
5
6
7
8
9
time (seconds)

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#IndependentLearning

Questions:

Stick the data into your book and use it to create a line graph, making sure that your interval/scales are appropriate and that you have selected the right labels for each axis.

Answer the questions surrounding each graph in FULL sentences.

How much different will constructing our graph be?

How will you approach this problem?

The table below shows the population in the UK and Australia from 1990 to 2015.

	1990	1995	2000
UK	57,200,000	58,000,000	58,900,000
Australia	17,000,000	18,000,000	19,000,000
	2005	2010	2015
UK	60,300,000	63,300,000	65,400,000
Australia	20,200,000	22,100,000	23,800,000

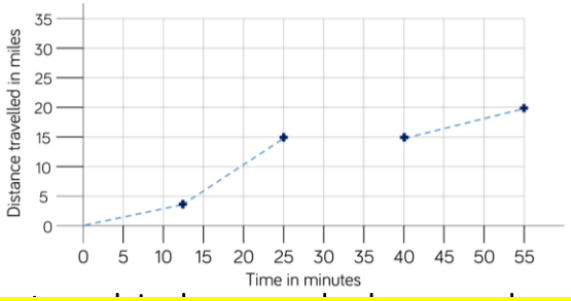
Create one line graph to represent the population in both countries. Create three questions to ask your friend about your completed graph.

What will your scales/interval be?

How will you show both locations on the same graph?

How will you approach this problem?

This graph shows the distance a car travelled.

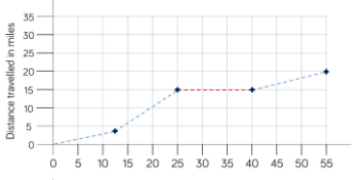


What is the difference between their graphs?

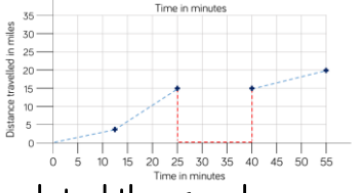
How do you know who is right?

Rosie and Jack were asked to complete the graph to show the car had stopped. Here are their completed graphs.

Rosie:



Jack:



Who has completed the graph correctly? Explain how you know.

Why do you think Rosie has interpreted her graph this way?

Why do you think Jack has interpreted his graph this way?

How much different will constructing our graph be?

How will you approach this problem?

This table shows the distance a lorry travelled during the day.

Time	Distance in miles
7.00 a.m.	10
8.00 a.m.	28
9.00 a.m.	42
10.00 a.m.	58
11.00 a.m.	70
12.00 a.m.	95
1.00 p.m.	95
2.00 p.m.	118

Create a line graph to represent the information, where the divisions along the x-axis are every two hours.

Create a second line graph where the divisions along the x-axis are every hour.

Compare your graphs. Which graph is more accurate?

Would a graph with divisions at each half hour be even more accurate?

Which do you prefer? Explain your reasoning.

02.07.20

LO: to solve problems in context involving line graphs

Starting Tasks (7-8 mins):

1. Green Pen Task: Respond to Marking
2. Master Mathematician
3. Mathemagician

Success Criteria

- to recall the properties of a variety of 2D shapes
- to use a ruler accurately to draw a variety of 2D shapes
- to explore the use of a protractor to create specific angles when constructing shapes.

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Am I a Master of My Maths?

Stick the following questions into your book and calculate the answer, showing your working out.

Challenge A

Topics include:

- balancing equations
- solving algebraic equations
- measurement
- missing number problems
- calculating time intervals

Challenge B

Topics include:

- long division
- algebraic substitution
- mixed numbers and improper fractions
- missing number problems
- calculating time intervals

June 26, 2020

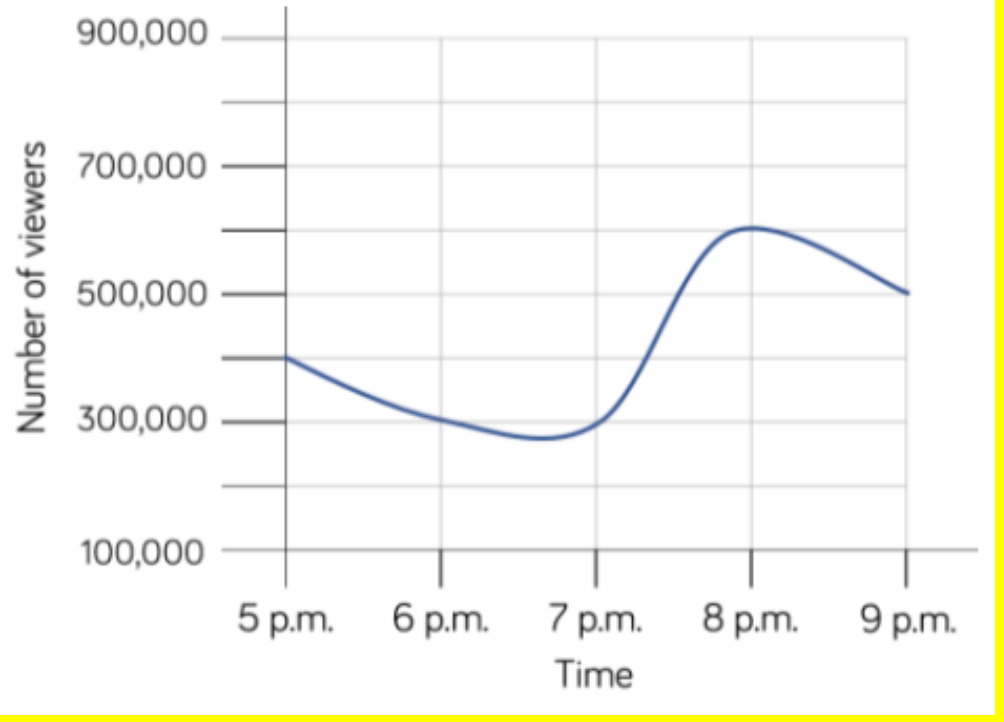
#Mathemagician

Riddle Me This...

A man buys a horse for $60.
He sells the horse for $70.
He then buys the horse back for $80.
And he sells the horse again for $90.
In the end, how much money
did the man make or lose?
Or did he break even?

Remember to write down and explain your reasoning behind your response.

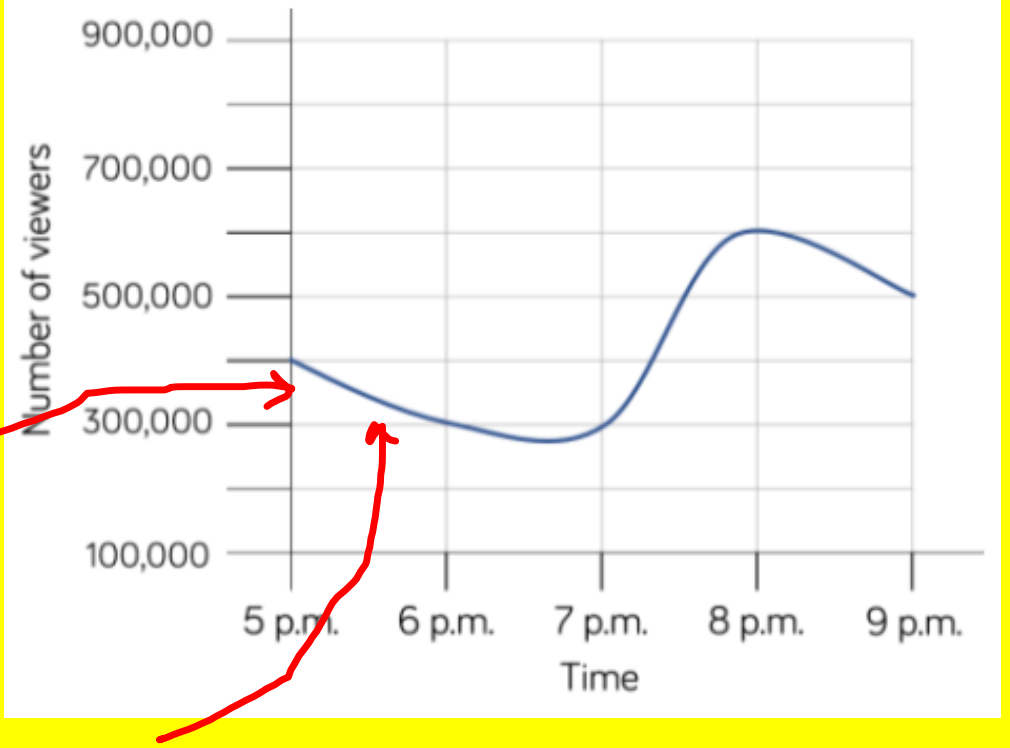
Have a look at this graph:



Is it clear to read and gain information from?
What does it tell you?
What does it not tell you?

Could this information be placed on a different graph?
Would it be better to read there?

Have a look at this graph:



Could we really tell how many people were watching at 5:30pm?

Could we really tell at what point 240,000 people were watching?

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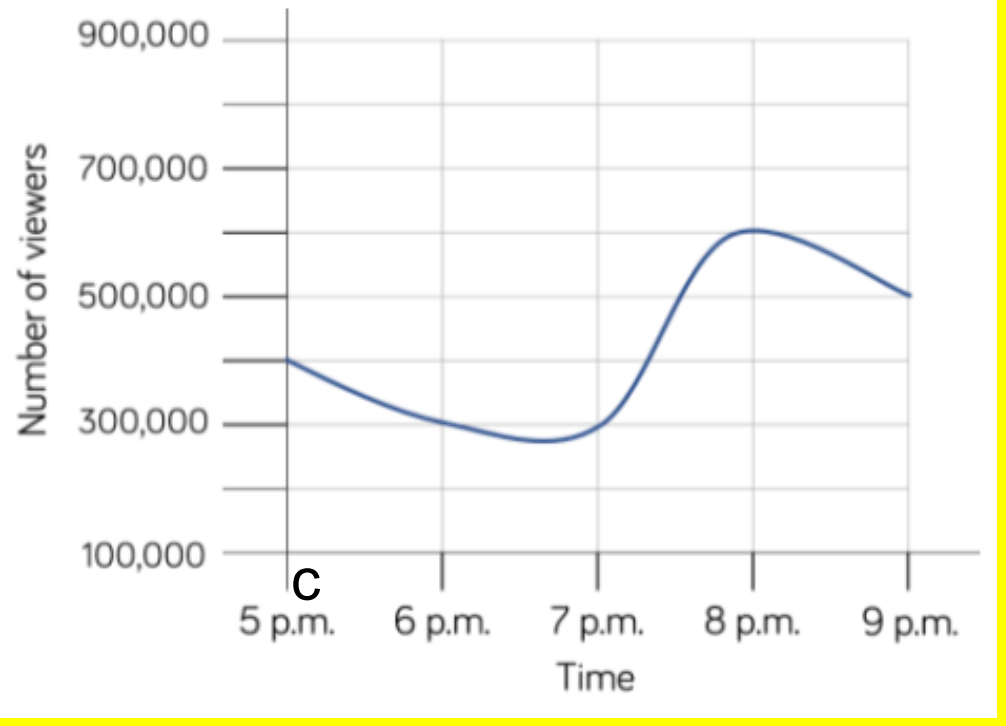
Provide three ways in which this graph could be improved:



Improvements

-

-

-

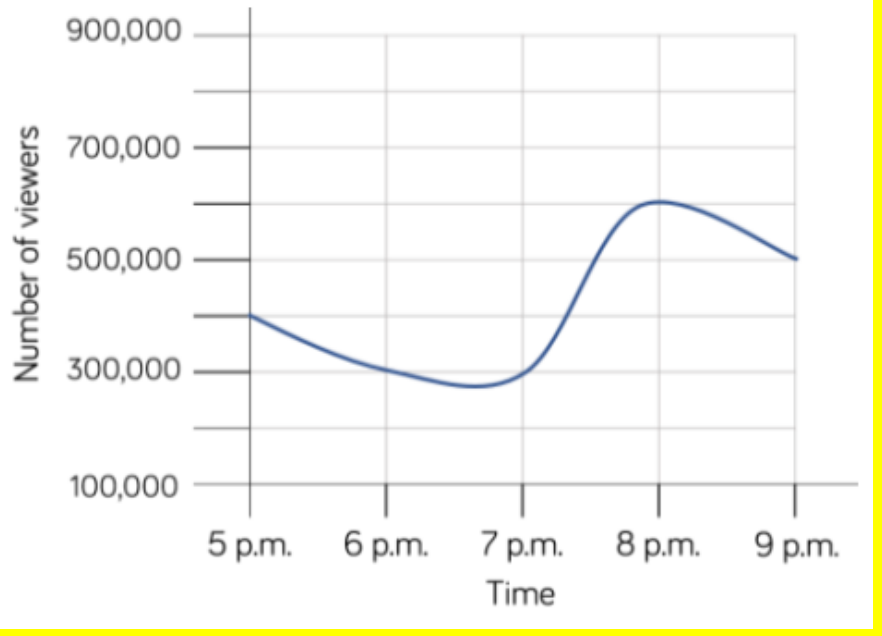
Ron and Annie watched the same channel, but at different times.
The graph shows the number of viewers at different times.
Ron watched 'Chums' at 5 p.m. Annie watched 'Countup' at 8 p.m.

Questions

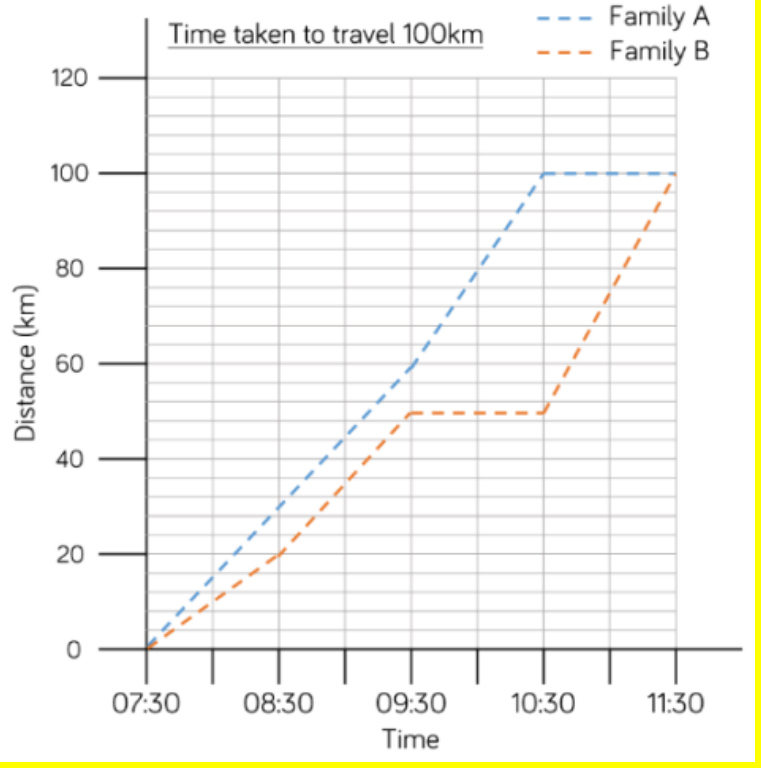
1) What was the difference between the number of viewers at the start of each programme?

2) What was the difference in the number of viewers between 6 p.m. and 8 p.m.?

3) Which time had twice as many viewers as 6 p.m.?



Two families were travelling to Bridlington for their holidays.
They set off at the same time but arrived at different times.



Questions

A) What time did 'Family A' arrive?
B) How many km had each family travelled at 08:45?
C) Which family stopped midway through their journey?
D) How much further had they left to travel?

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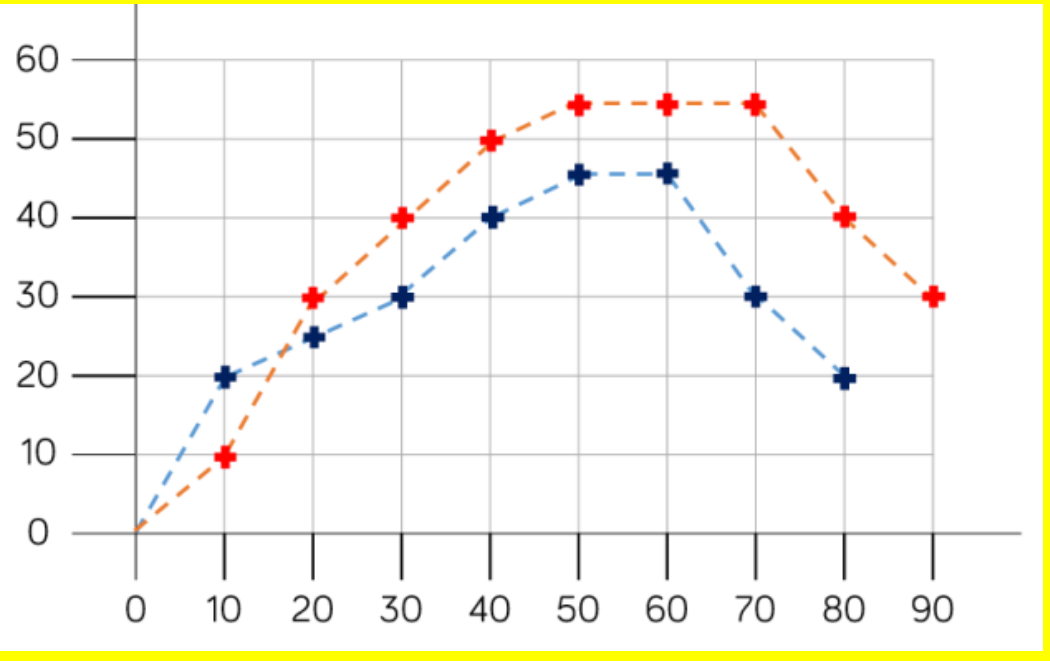
Story Time...

What could this graph be showing?

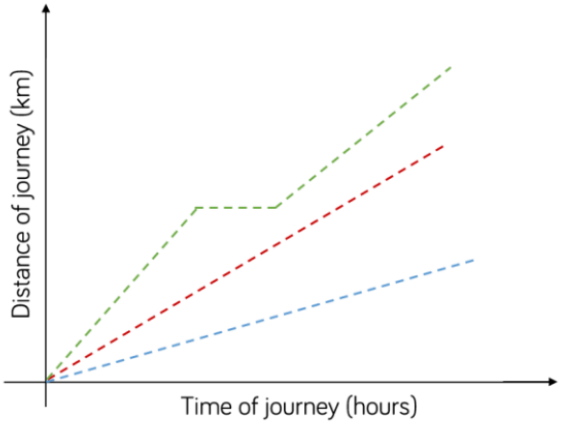


Create your own story based on this line graph - remember to be creative and realistic, using the data points as a reference.

How will you approach this problem?

What do you notice about each of the three lines in the graph?

The graph below shows some of Mr Woolley's journeys.



What is the same and what is different about each of these journeys?

What might have happened during the green journey?

Is it clear which journey took the longest?

Is it clear which journey took the shortest?

What could be the reason?

03.07.20

LO: to collate data and present it in the form of a line graph, using sensible scales and readings.

Starting Tasks (7-8 mins):

1. Green Pen Task: Respond to Marking

2. Master Mathematician

3. Mathemagician

Success Criteria

- to know what a polygon is
- to identify a specific polygon based on their properties
- to understand the relationship between the number of sides and the sum of interior angles

June 26, 2020

Am I a Master of My Maths?

Stick the following questions into your book and calculate the answer, showing your working out.

Challenge A

Topics include:

- balancing equations
- solving algebraic equations
- measurement
- missing number problems
- calculating time intervals

Challenge B

Topics include:

- long division
- algebraic substitution
- mixed numbers and improper fractions
- missing number problems
- calculating time intervals

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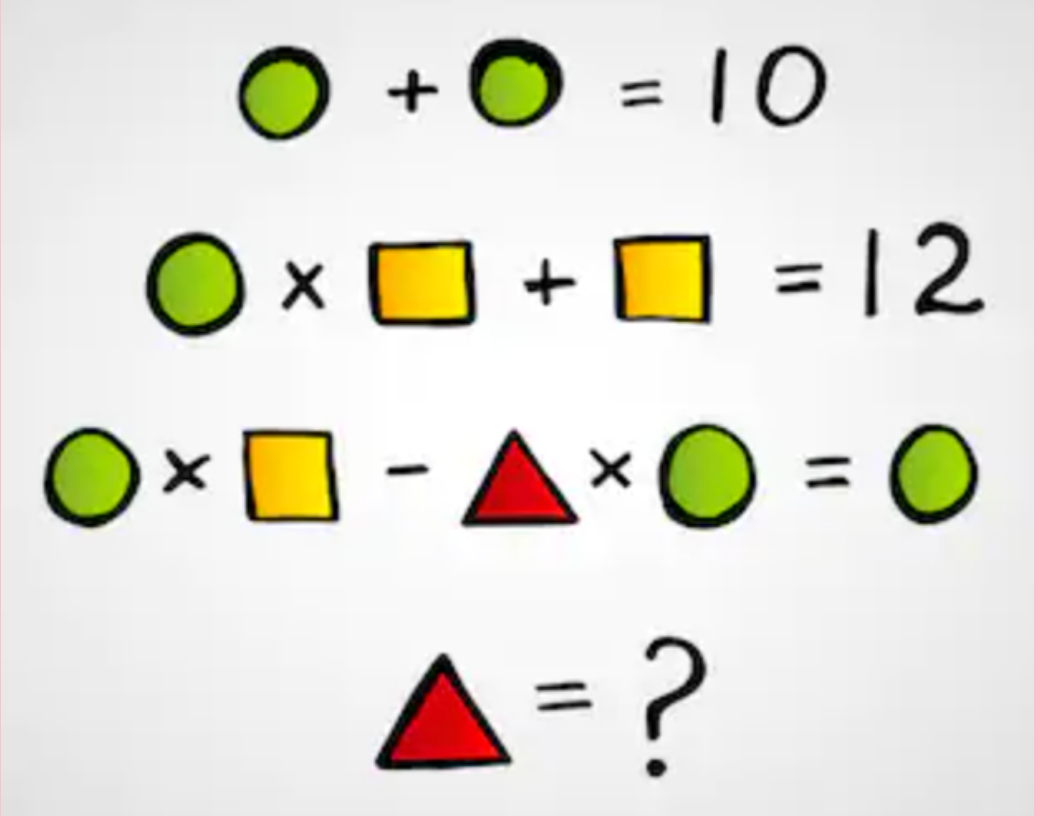
#Mathemagician

Riddle Me This...



Remember to write down and explain your reasoning behind your response.

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Classification

Follow the diagram to sort these shapes into their correct categories (hint: some groups may have more than one shape).

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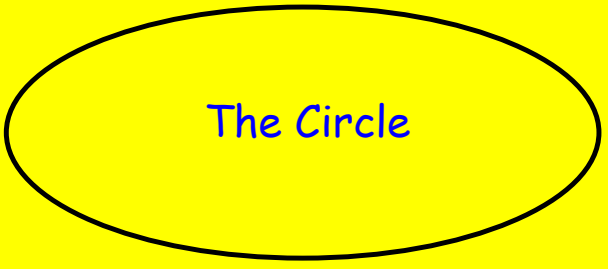
Write down everything that you know about a circle
- think about the features of it shapes
- think about your learning of angles, symmetry
- think about what it reminds you of in the real world



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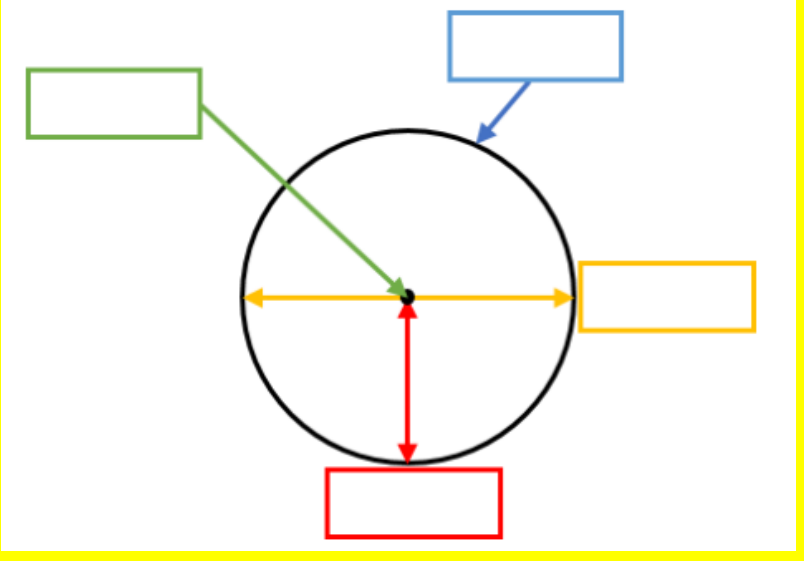
The Circle

the perimeter around the circle

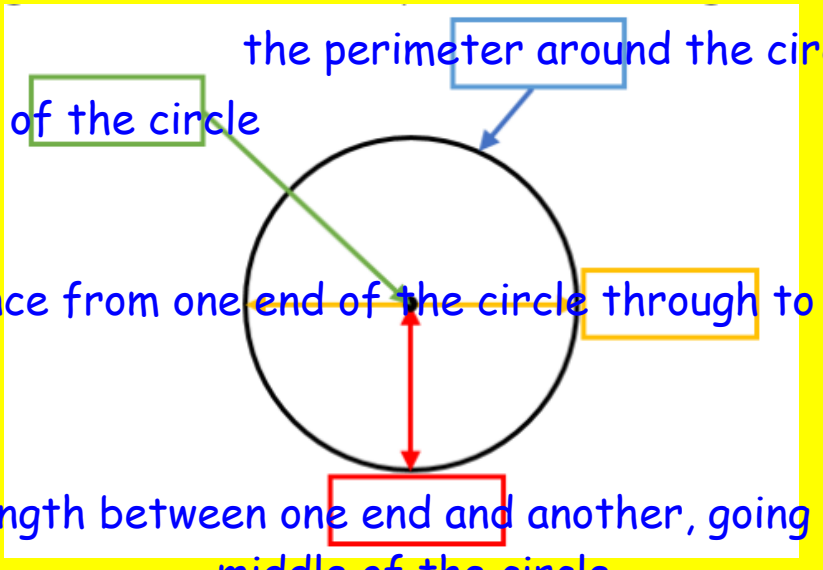


the distance from one end of the circle through to the other

the middle of the circle

half the length between one end and another, going across the middle of the circle

The Circle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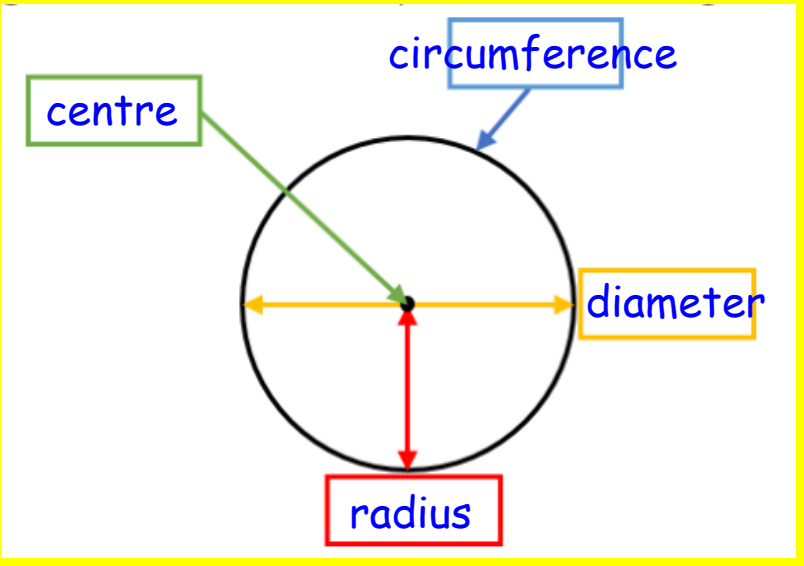
The Circle



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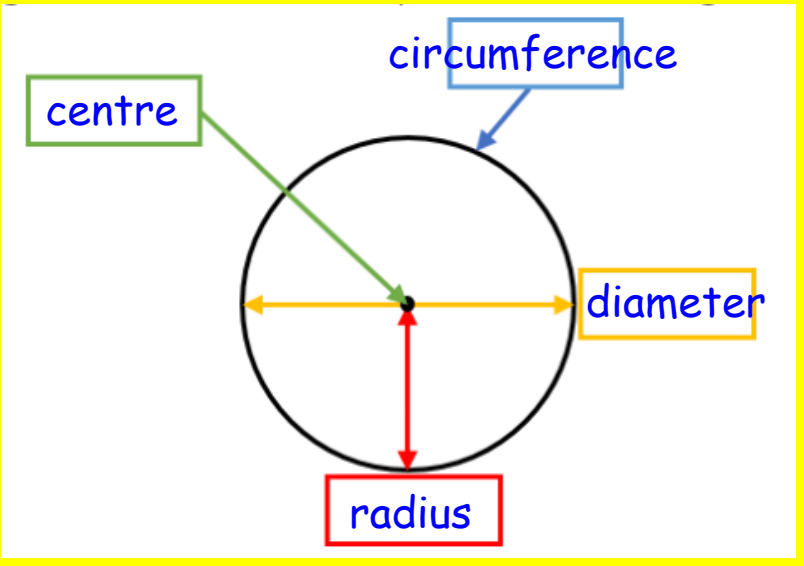
The Circle



#IndependentLearning

Measure

Explore a range of circular objects and measure its radius and diameter

See if you can come up with a clever way to calculate the circumference of the shape.

EXT: Is there a relationship between the radius/diameter of a circle and its circumference?

EXT: How could a rope or a piece of string be used to help you?

How will you approach this problem?

Alex says:

The bigger the radius of a circle, the bigger the diameter.

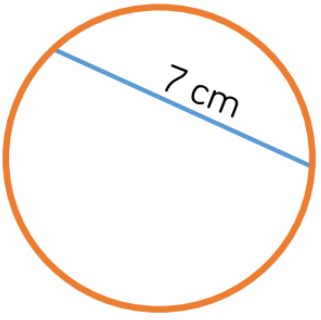
Do you agree? Explain your reasoning.

What examples can you give to prove your response?

How can you articulate your response?

How will you approach this problem?

Spot the mistake!
Tommy has measured and labelled the diameter of the circle below.
He thinks that the radius of this circle will be 3.5 cm.



Is Tommy right? Explain why.

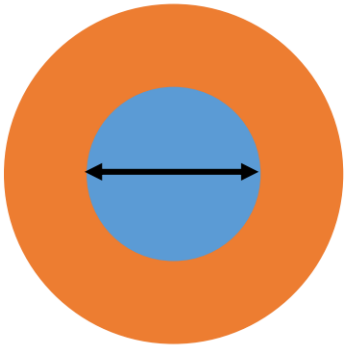
How will you show/explain that Tommy is right or wrong?

How can you apply today's learning to support your response?

How will you articulate your response?

How will you approach this problem?

Here are 2 circles. Circle A is blue; Circle B is orange. The diameter of Circle A is $\frac{3}{4}$ the diameter of Circle B.



If the diameter of Circle B is 12 cm, what is the diameter of Circle A?
If the diameter of Circle A is 12 cm, what is the radius of Circle B?
If the diameter of Circle B is 6 cm, what is the diameter of Circle A?
If the diameter of Circle A is 6 cm, what is the radius of Circle B?

How will you show/explain that Tommy is right or wrong?

How can you apply today's learning to support your response?

How will you articulate your response?

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