



Year 6

Mathematics

Practice Questions

Statistics

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Section One:

Information in Tables

1

[2010]

This table shows six different types of cat and where they are found in the world.

	Europe and Middle East	Asia	Africa
Jungle cat	✓	✓	✗
Wildcat	✓	✓	✓
Tiger	✗	✓	✗
Lion	✗	✓	✓
Cheetah	✗	✗	✓
Leopard	✓	✓	✓

Use this table to answer these questions.

Which type of cat is found **only** in Africa?



Which types of cat are found in all three parts of the world?



[2 marks]

4

Some children were asked to choose their favourite animal in the zoo.

[2007]

This table shows the results.

	Girls	Boys
zebra	9	3
lion	4	9
giraffe	7	4
monkey	8	7
elephant	6	5

How many more girls than boys chose giraffes?



How many more boys chose lions than elephants?



Which animal was chosen by the greatest number of children?

 _____

[3 marks]

5

Kirsty, Seb, Mina, Jack and Donna belong to a sports club.

[2012]

This table shows the sports they do in one week.

	Mon	Tues	Wed	Thurs	Fri
Swimming	Kirsty Jack		Jack	Kirsty Donna	Donna
Jogging	Seb	Mina			Mina Kirsty Jack
Cycling		Kirsty Donna		Jack	Seb

How many of the children do **not** go swimming?



Write the names of all the children who go **both** jogging **and** cycling.

 _____

[2 marks]

8

The table below shows five journeys a taxi driver made one day.

[2012]

journey number	start time	number of passengers	distance	cost
1	9:15am	2	8km	£7.50
2	9:40am	1	12km	£9.90
3	10:30am	3	7km	£7.60
4	10:50am	1	21km	£15.50
5	12:10pm	4	15km	£12.00

On journey number 5, the passengers shared the cost equally.

How much did **each** passenger pay?



How many **passengers** made journeys of more than 10km?



The 12km journey took 40 minutes.

What time did the taxi finish its journey?



[3 marks]

10

Five children took part in a chess competition.

[2013]

They each played six games.

This table shows how many games each child won, drew or lost.

	won	drew	lost
Alfie	1	3	2
Megan	2	2	2
Chen	3	3	0
Donna	4	0	2
Tom	0	5	1

How many children drew more games than they lost?



Each child scores two points for a win,
one point for a draw,
no points for a loss.

Who scored the most points?



[2 marks]

14

The chart shows the distances in miles between five cities in America.

[Extra]

	Chicago			
Denver	1015	Denver		
New York	797	1799	New York	
Seattle	2062	1329	2864	Seattle
Washington	701	1686	228	2769

It is 1686 miles from Washington to Denver.

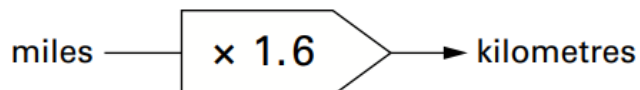
How many miles is it from Washington to Chicago?

 miles

Which two cities have the greatest distance between them?

and

To change miles to kilometres use this rule:



How many kilometres is it from New York to Washington?

 km

[3 marks]

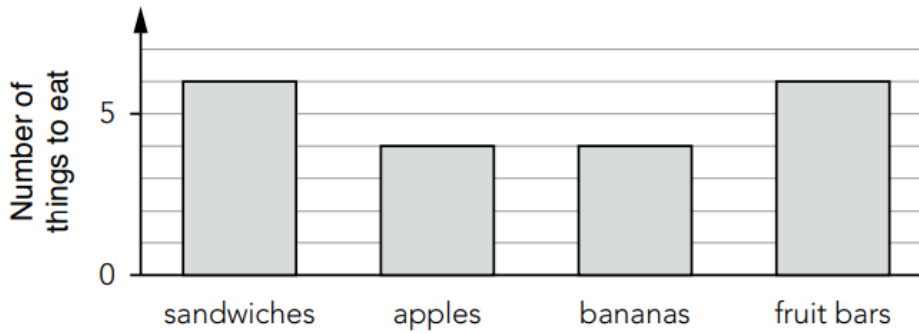
16

[2016]

This table shows the number of things to eat in **five** children's lunch boxes.

	sandwiches	apples	bananas	fruit bars
Lisa	1	2	0	2
Jack	2	0	2	1
Kemi	1	1	0	2
Nik	1	2	1	0
Ben	2	1	2	1

Here is a graph of the information for **four** of the children.



Which child's information is missing from the graph?

Explain how you know.

[2 marks]

Section Two:

Bar Charts

1

[2005]

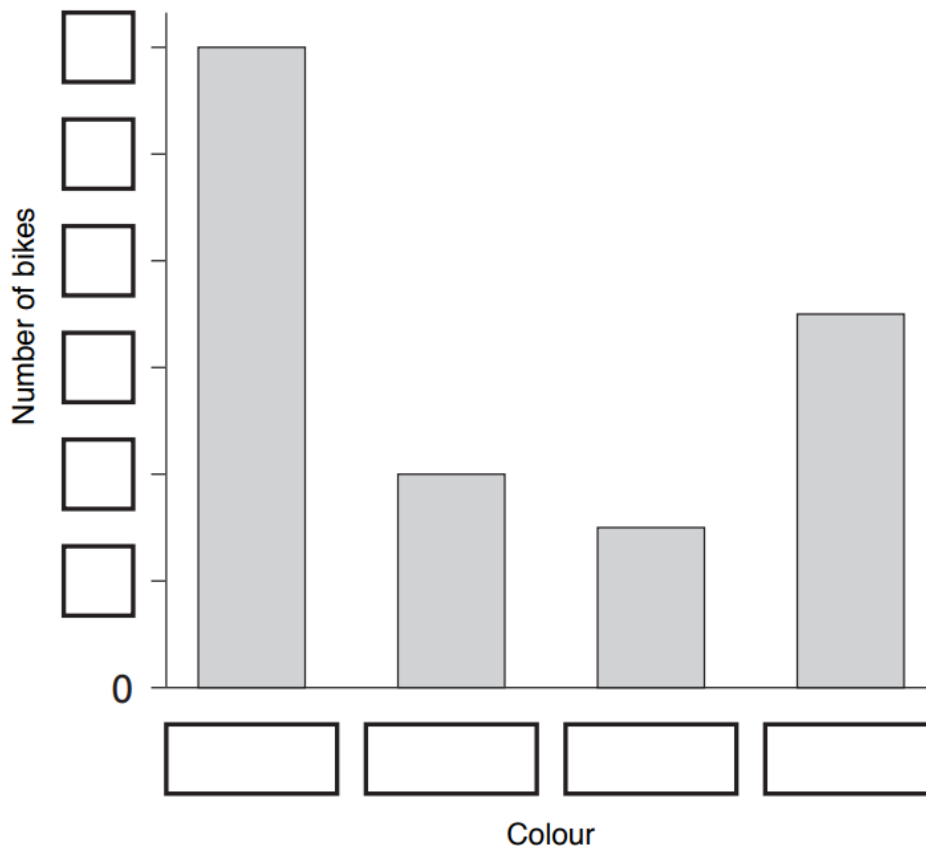
Robbie collected information about the colours of some bikes.

Here are his results.

Colour	Number of bikes
green	4
red	7
blue	12
pink	3

This bar graph shows the information from the table.

Fill in **all** the missing labels.



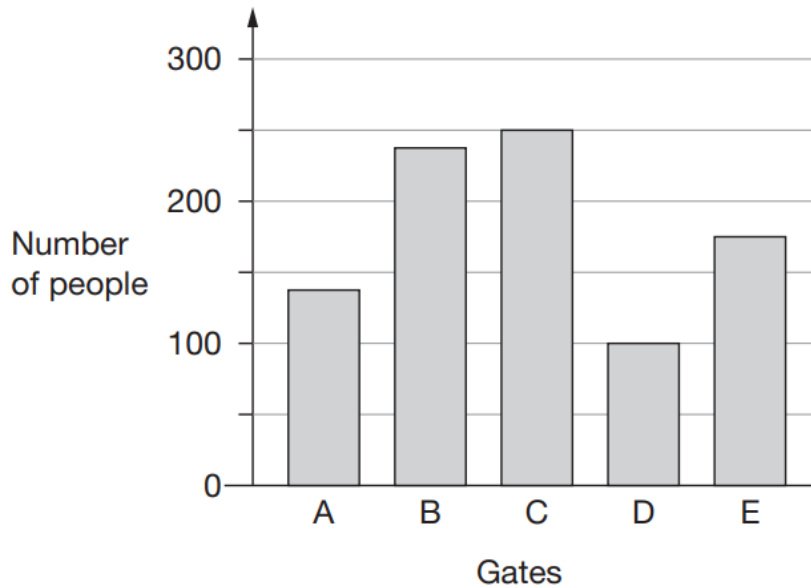
[2 marks]

2

There are five entry gates at an open air concert.

[2010]

This bar chart shows how many people went through each gate.



How many **more** people went through gate C than gate D?



How many gates had **fewer than 150** people go through?



[2 marks]

5

Alfie collected information about the pets owned by children in his class.

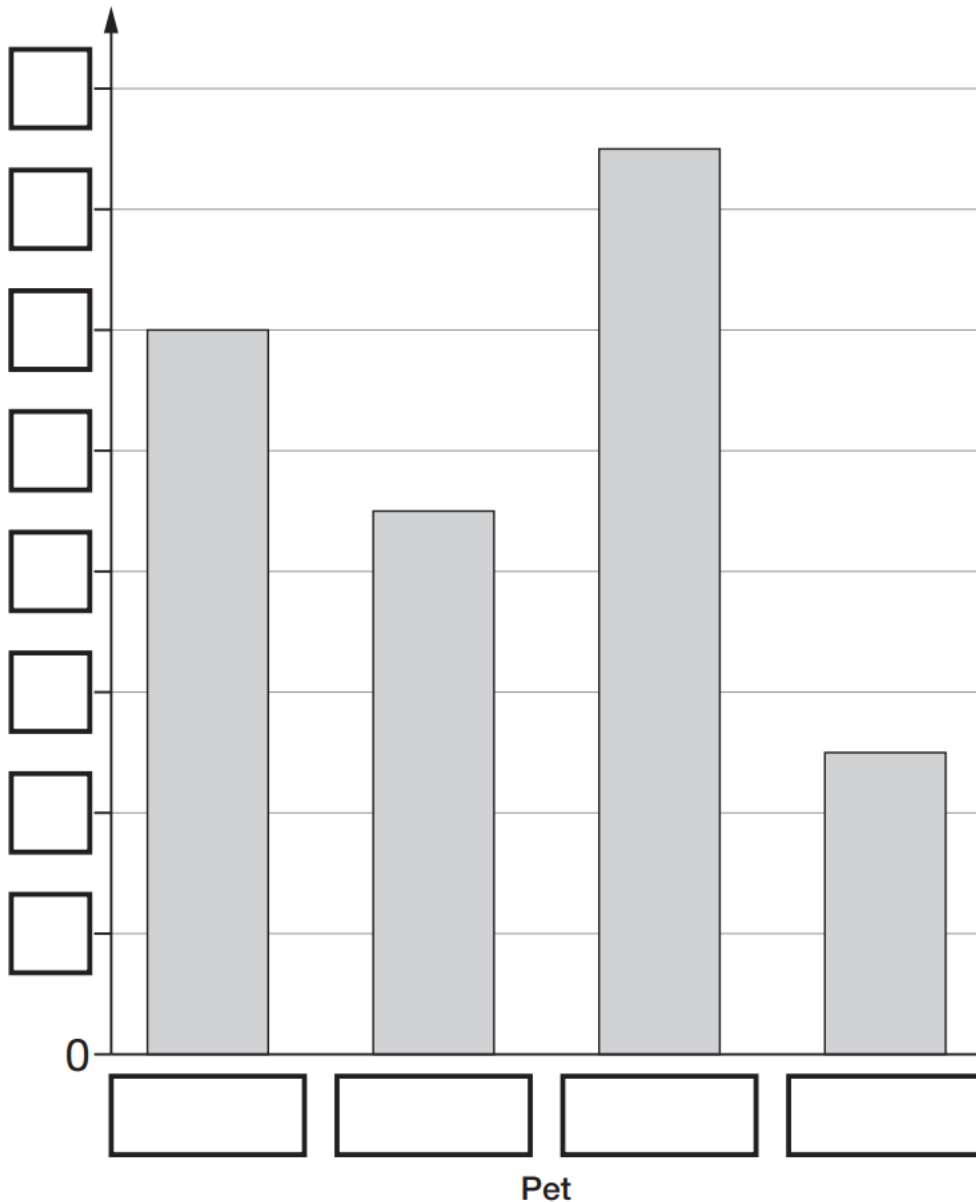
[2014]

Here are his results.

Pet	Number of pets
dog	9
cat	12
rabbit	5
fish	15

This bar chart shows the information from the table.

Fill in **all** the missing labels.



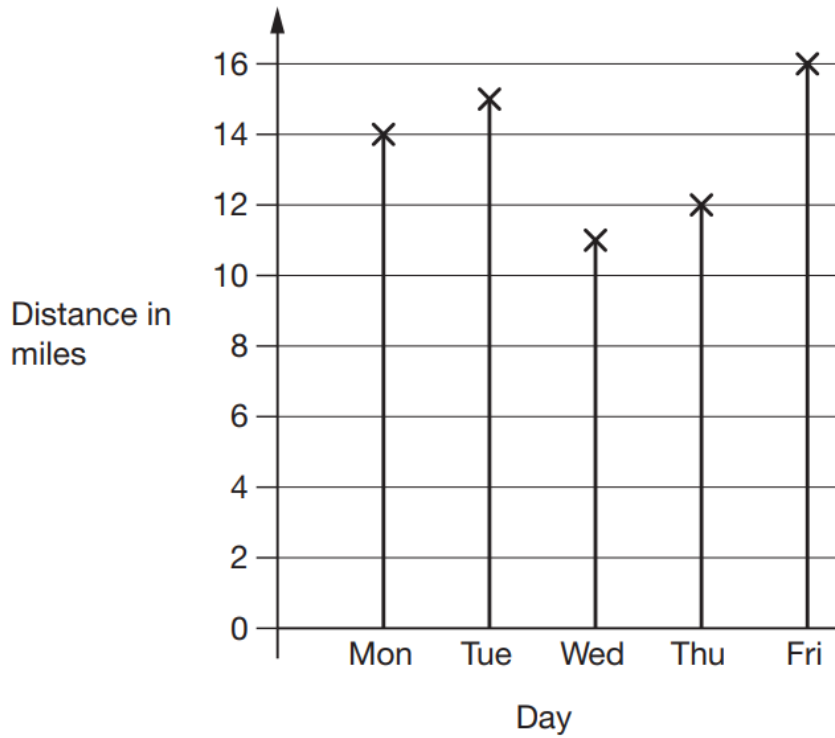
[2 marks]

8

Amy went on a cycling holiday.

[2015]

This chart shows how far she cycled each day.



How much **further** did Amy cycle on Friday than on Wednesday?



How far did Amy cycle **altogether** on the three days she cycled the most?



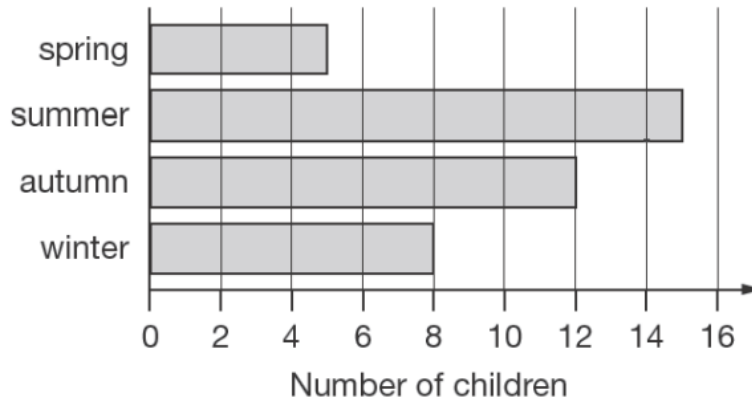
[2 marks]

11

A survey was done to find out children's favourite season.

[2012]

This chart shows the results.



How many more children chose autumn than chose spring?



Kirsty says,

'Exactly twice as many children chose summer as chose winter.'

Is Kirsty correct?
Circle **Yes** or **No**.

 Yes / No

Explain how you know.

[2 marks]

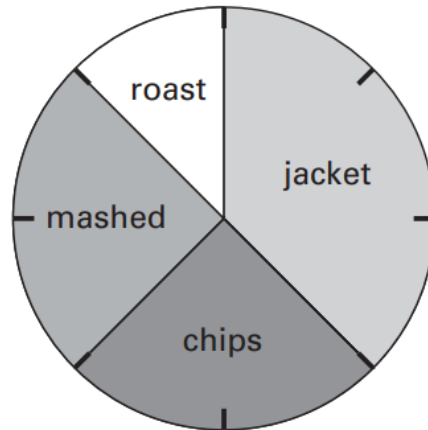
Section Three:

Pie Charts

1

[2005]

This pie chart shows how the children in Class 6 best like their potatoes cooked.



32 children took part in the survey.

Look at the four statements below.

For each statement put a tick (✓) if it is **correct**.
Put a cross (✗) if it is **not correct**.



10 children like chips best.

25% of the children like mashed potatoes best.

$\frac{1}{5}$ of the children like roast potatoes best.

12 children like jacket potatoes best.

[2 marks]

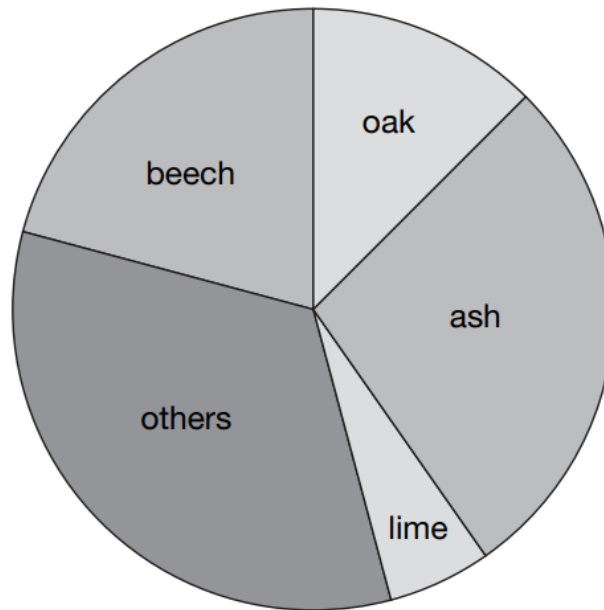
2

[2006]

Class 6 did a survey of the number of trees in a country park.



This pie chart shows their results.



Estimate the **fraction** of trees in the survey that are **oak** trees.



The children counted 60 **ash** trees.

Use the pie chart to estimate the **number** of **beech** trees they counted.

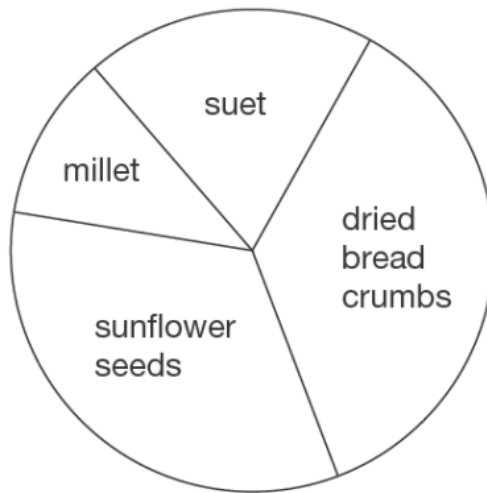


[2 marks]

3

[2012]

This pie chart shows the ingredients to make a food mixture for wild birds.



Estimate the **percentage** of mixture that is suet.

 %

Mina uses 100 grams of millet in the mixture.

Estimate how many grams of sunflower seeds she should use.

 g

[2 marks]

6

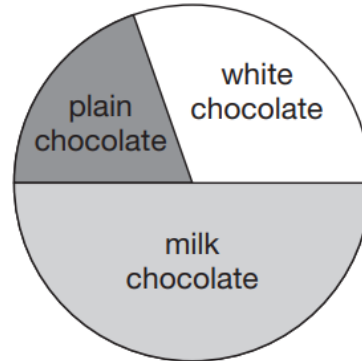
[2016S]

100 girls and 50 boys were asked which kind of chocolate they like best.

These two pie charts show the results.



100 girls



50 boys

Dev says,

“The pie charts show that more girls than boys liked milk chocolate best.”

Dev is correct.

Explain how you know.

A large, empty, cloud-shaped outline intended for the student to write their explanation.

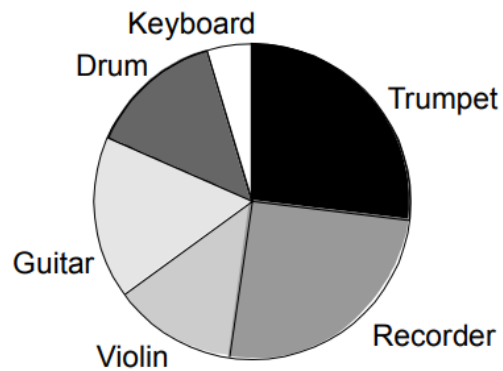
[1 mark]

11

The Year 6 children in a school were asked to choose a musical instrument.



This is a pie chart of their choices.



Estimate what **fraction** of the children chose a **drum**.

There are **80** children in Year 6.

Estimate the number of children who chose a **violin**.

Explain how you decided.

[3 marks]

38

39

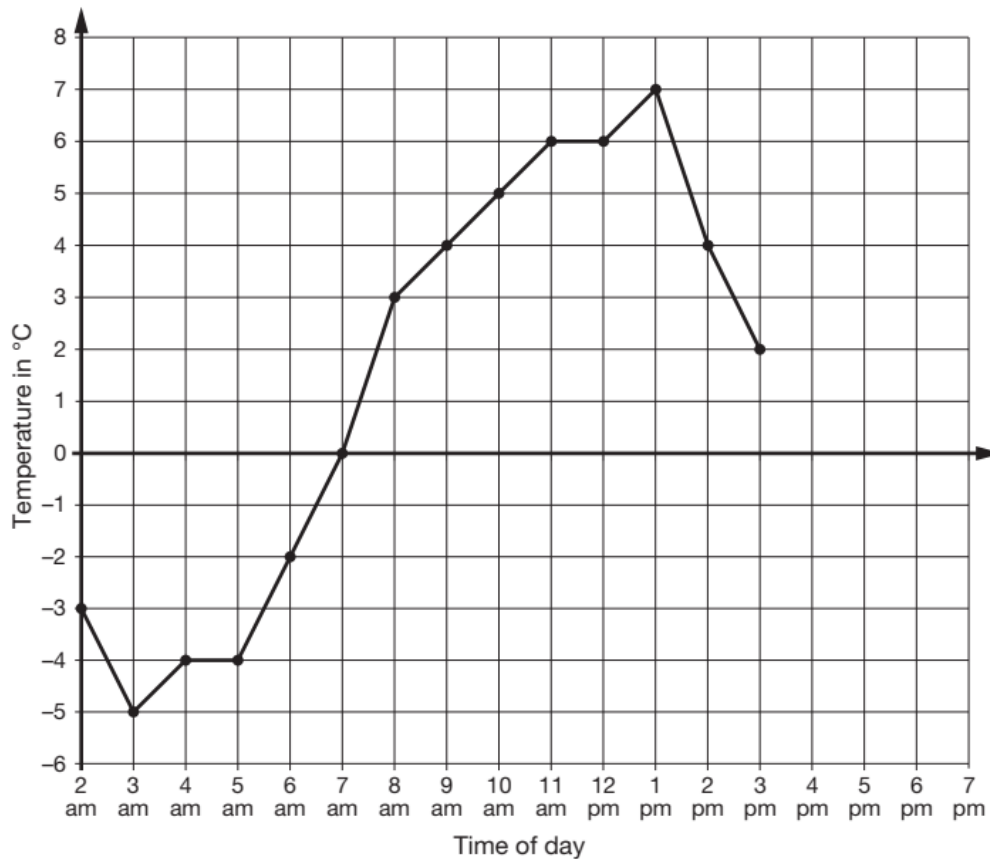
Section Four:

Line Graphs

1

This graph shows the temperature in °C from 2 am to 3 pm on a cold day.

[2017]



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

°C

At 6 pm the temperature was 4 degrees lower than at 3 pm.

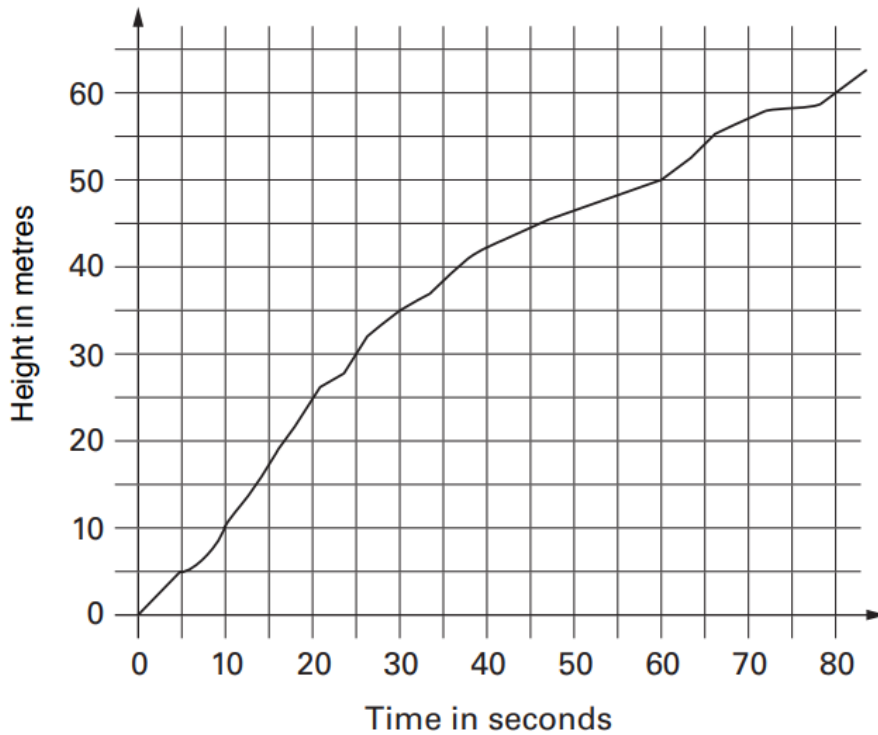
What was the temperature at 6 pm?

°C

[2 marks]



This graph shows the height of a balloon at different times.



From the graph, find the height of the balloon at 50 seconds.


 m

Use the graph to find how long it took the balloon to rise from 30 metres to 60 metres.

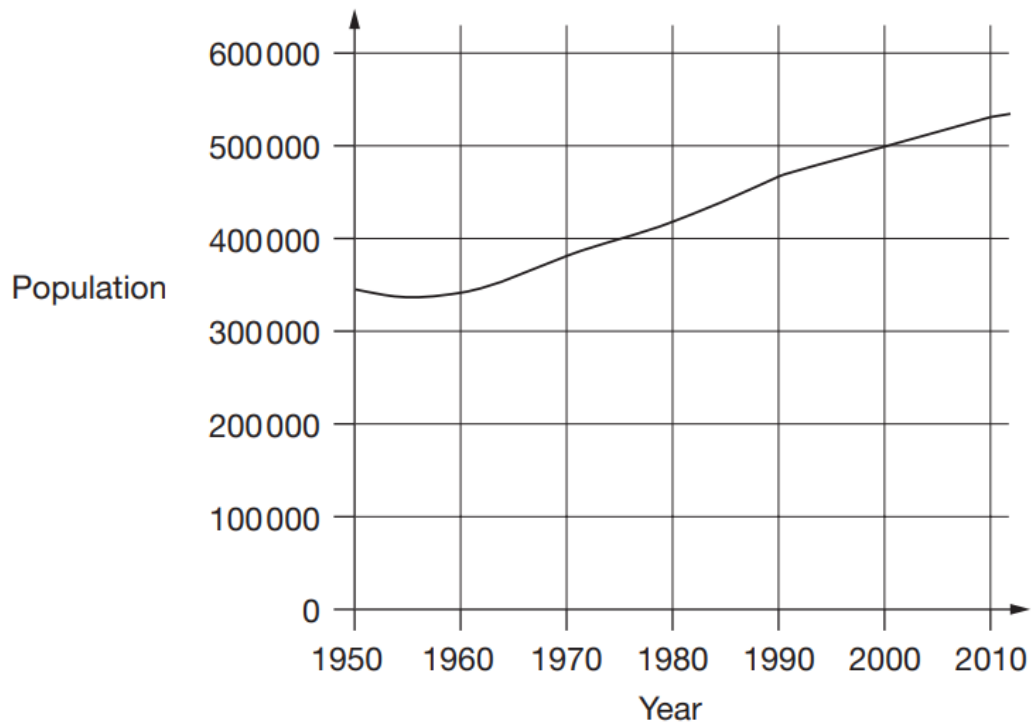

 seconds

[2 marks]

3

This chart shows the population of Cornwall from 1950 to 2010.

[2015]



Look at the chart.

In which year did the population first reach 400000?



How much did the population increase from 1950 to 2000?



What was the population of Cornwall in 2010?

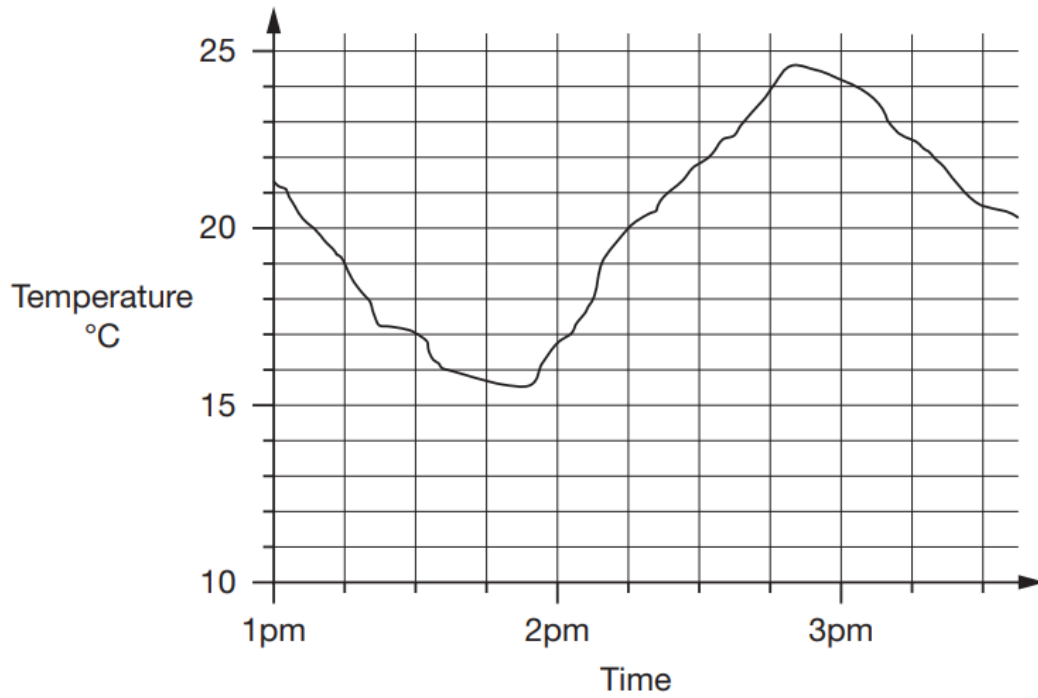


[3 marks]

8

This graph shows how the temperature changed in Liam's room one afternoon.

[2014]



Estimate the temperature at 3:15 pm.

 °C

Estimate the time when the temperature was highest.

 pm

How much did the temperature change from 2 pm to 2:30 pm?
Give your answer to the **nearest degree**.

 degrees

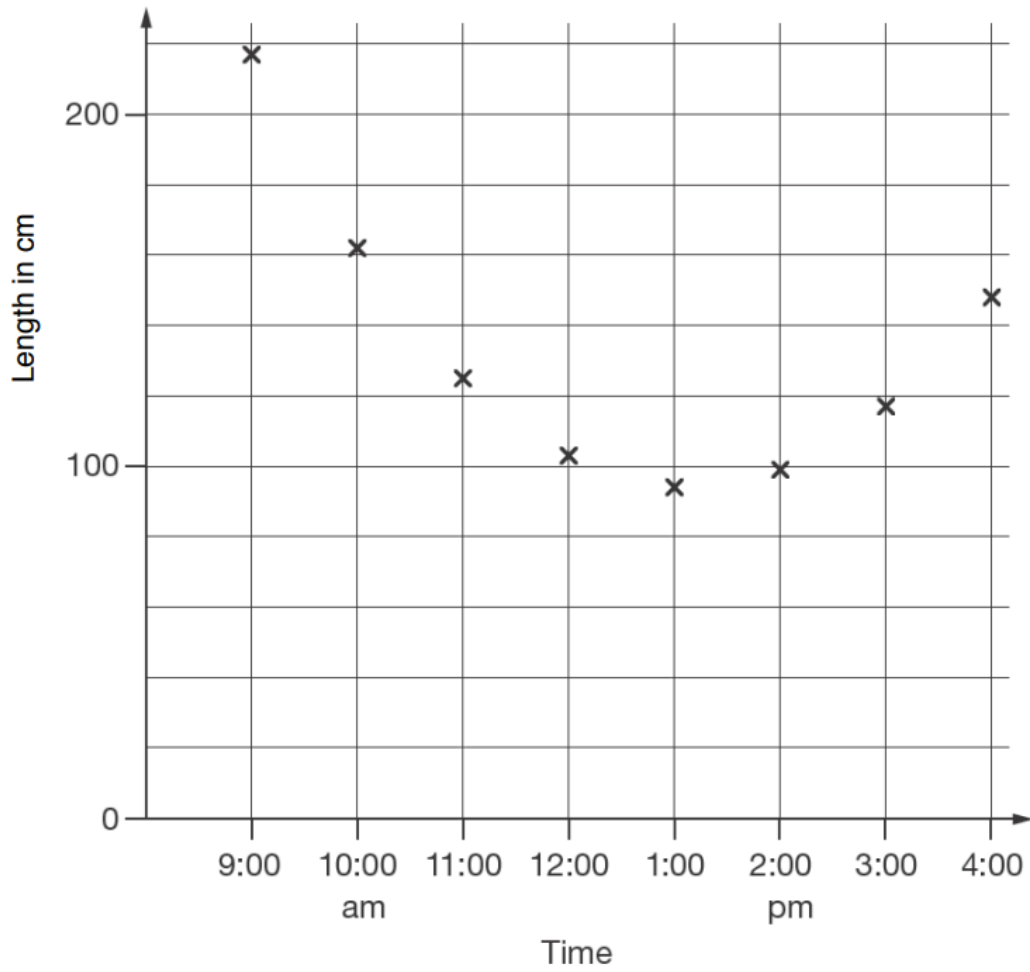
[3 marks]

11

Kirsty measured the length of her shadow every hour on one sunny day.

[2012]

She plotted her results on this graph.



Look at the graph.

Estimate the length of Kirsty's shadow at 3:30 pm.

 cm

Estimate a time when her shadow was 180 centimetres long.

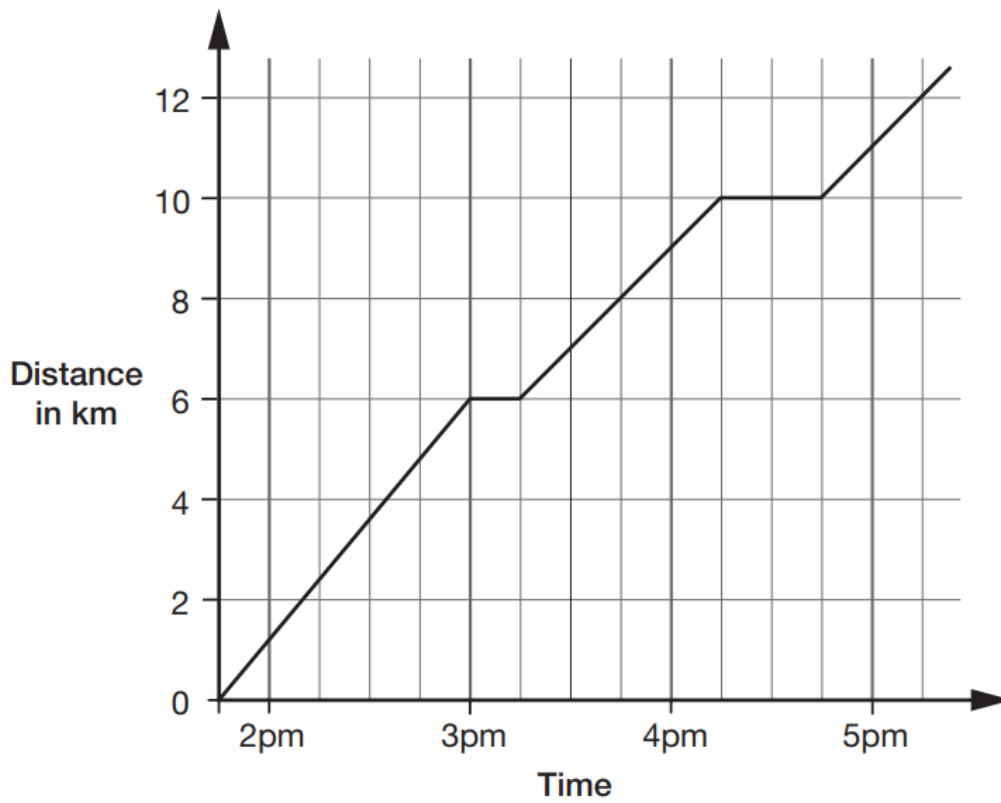
 :

[2 marks]

14

[2013]

This graph shows the distance Alfie and Chen walked in an afternoon. They started at 1:45pm and had two breaks.



How many kilometres did they walk **between** the first and second breaks?

 km

At what time did Alfie and Chen start their second break?



[2 marks]

47
48

Section Five:

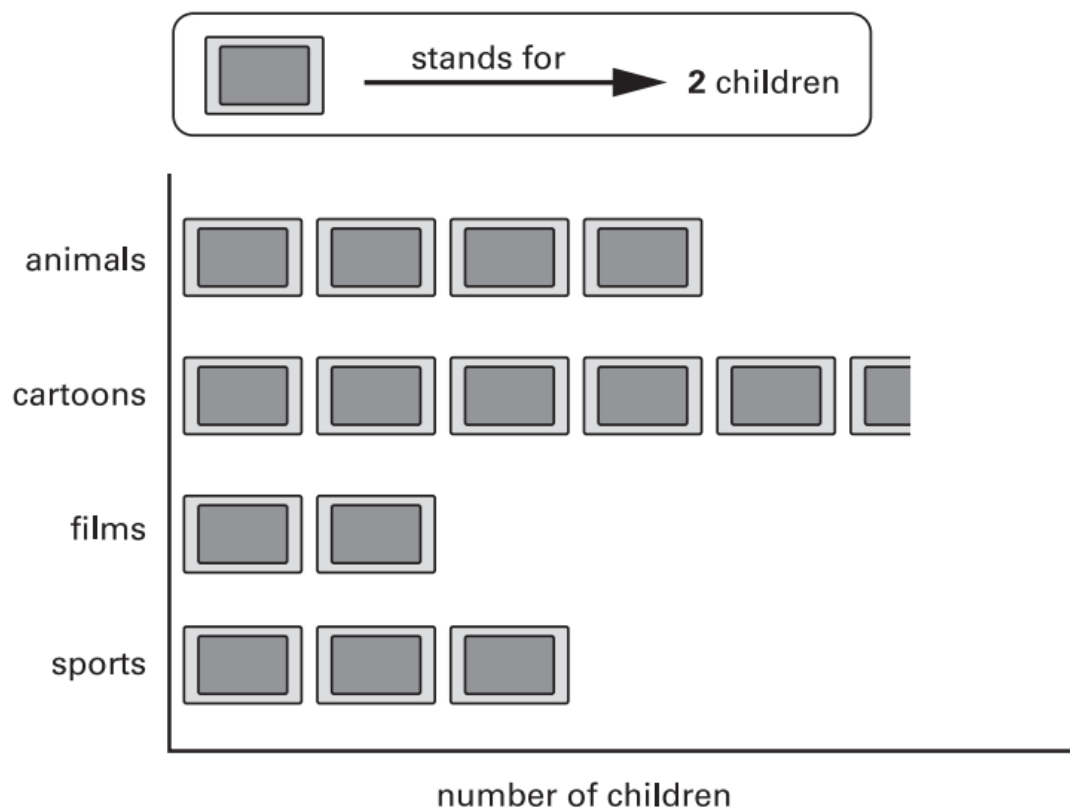
Pictograms

1
[2003]

Kiz asked each child in his class,

'What kind of television programme do you prefer to watch?'

Here are his results.



How many **more** children prefer to watch cartoons than films?



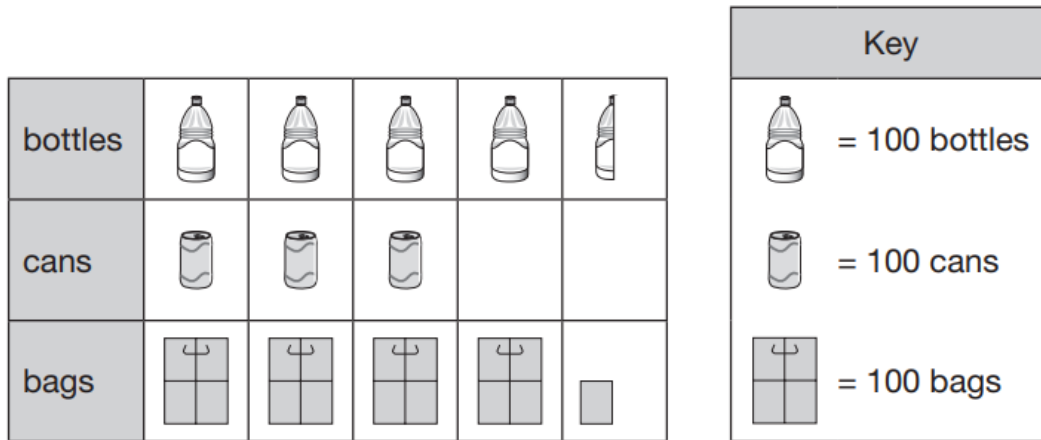
[1 mark]

2

Class 6 collect litter from a park.

[2011]

This chart shows some of the litter they have collected so far.



How many bottles have Class 6 collected?



How many **more** bags than cans have they collected?



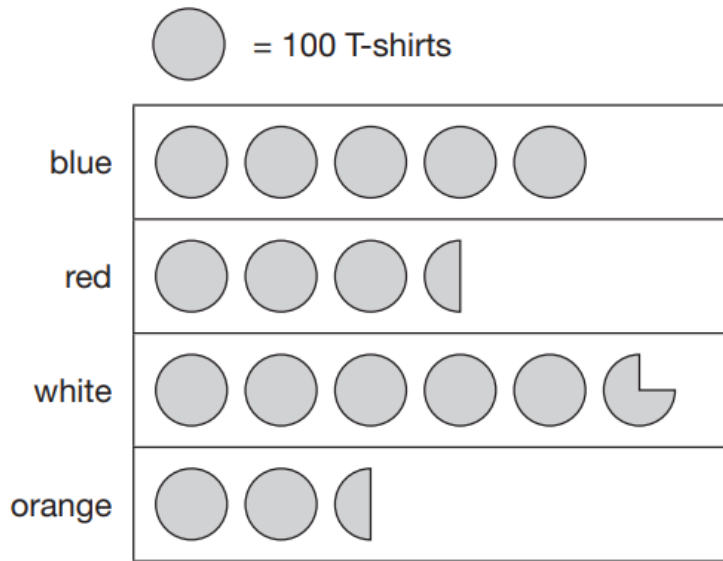
[2 marks]

3

A shop sells T-shirts.

[2014]

This chart shows how many T-shirts were sold in a month.



Write the colours of the T-shirts that sold **more than 400** in the month.



How many red T-shirts and orange T-shirts were sold **altogether**?



How many **more** white than blue T-shirts were sold?







[3 marks]

4

This pictogram shows the number of ice creams a shop sold in one day.

[2013]

 stands for
10 ice creams

vanilla	
strawberry	
chocolate	

How many **more** chocolate than strawberry ice creams were sold?



How many ice creams were sold **altogether**?



[2 marks]

54

55

Section Six:

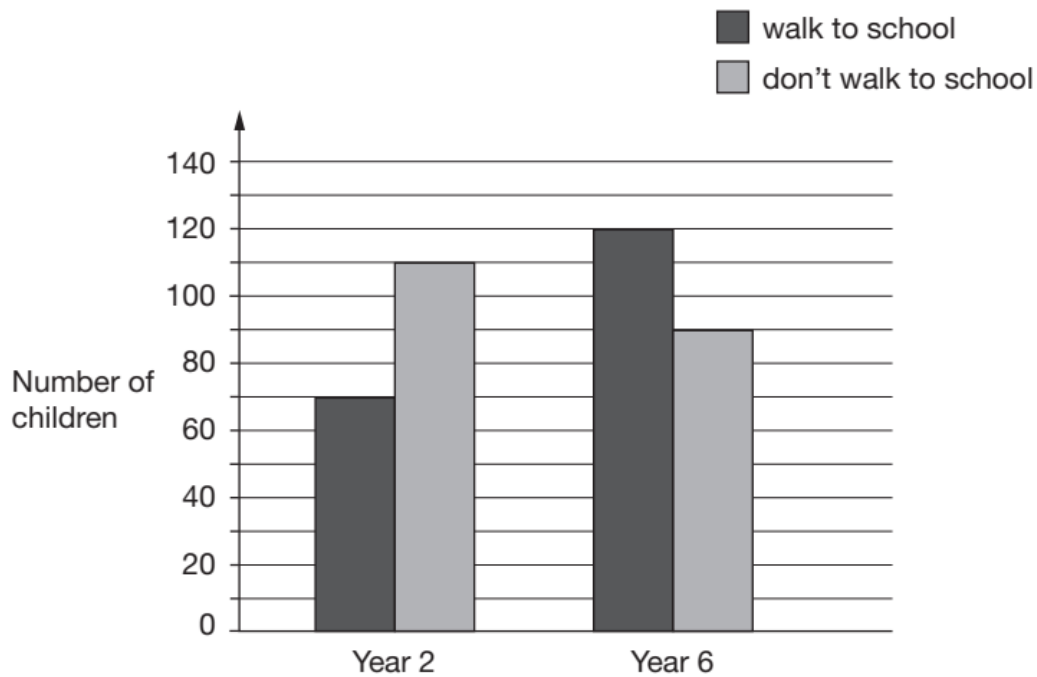
Specialist Charts

1

William asks the children in Year 2 and Year 6 if they walk to school.

[2017]

This graph shows the results.



Altogether, how many children **don't** walk to school?

How many **more** Year 6 children than Year 2 children walk to school?

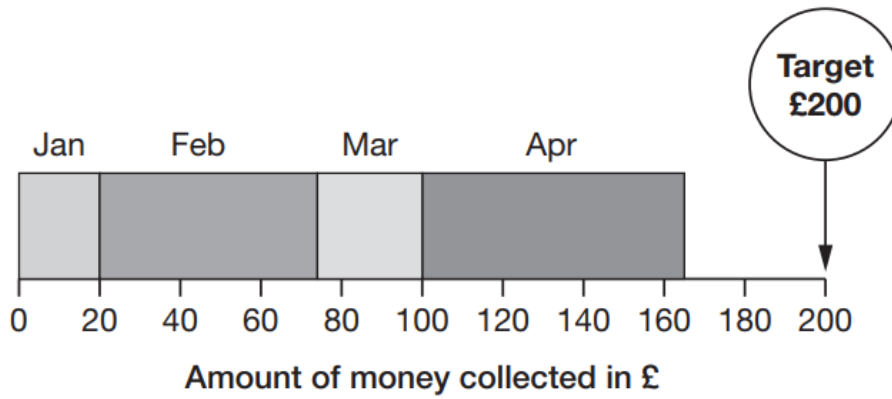
[2 marks]

2

[2016S]

A school plans to collect £200 between January and May.

This chart shows how much they collected by the end of April.



Write the name of **each** month where they collected more than £50

How much money did they collect in February and March **altogether**?

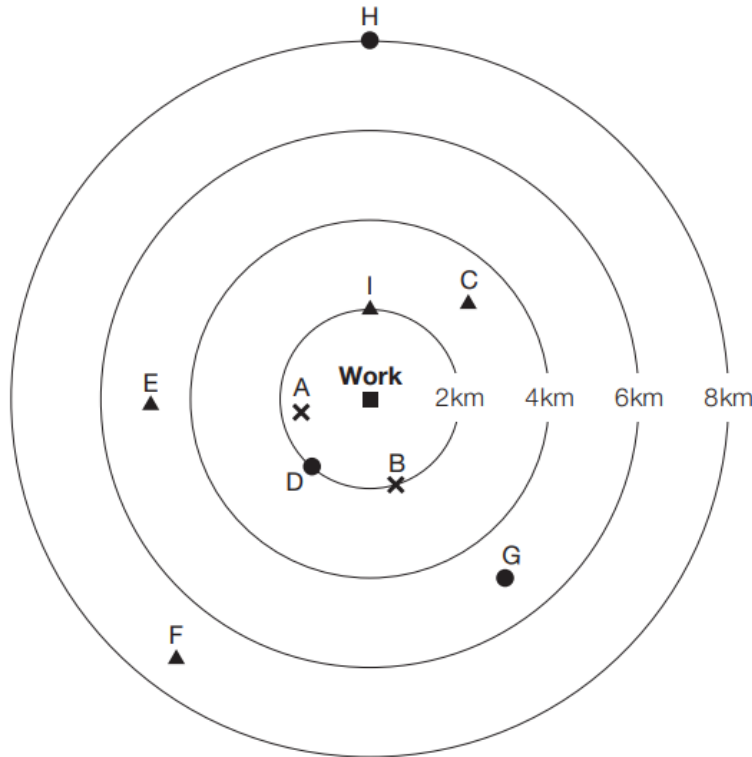
£

[2 marks]

3

[2013]

This diagram shows how nine people travel to work and how far away they live.



Key:

x walk

▲ bus

● cycle

How many people live **more** than 4km from work?



people

How far from work does person **G** live?



km

Write the letter of the person who lives 2km from work and cycles.



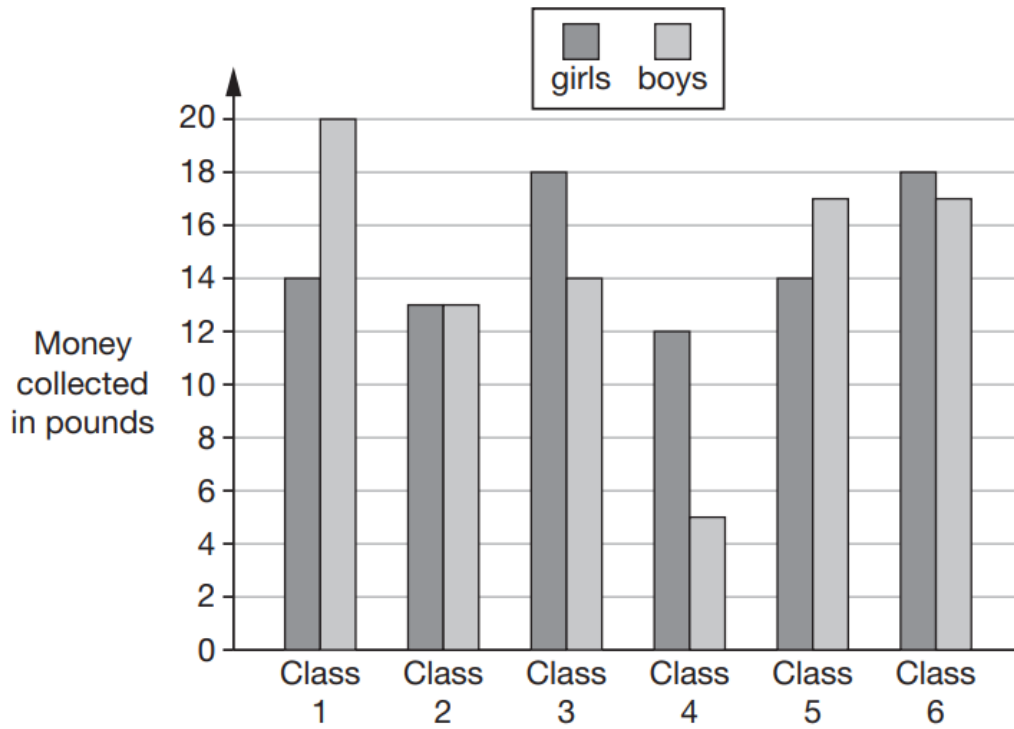
[3 marks]

6

Six classes at Winward Primary School collected some money.

[2015]

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?



£

How many classes collected more than £30?



classes

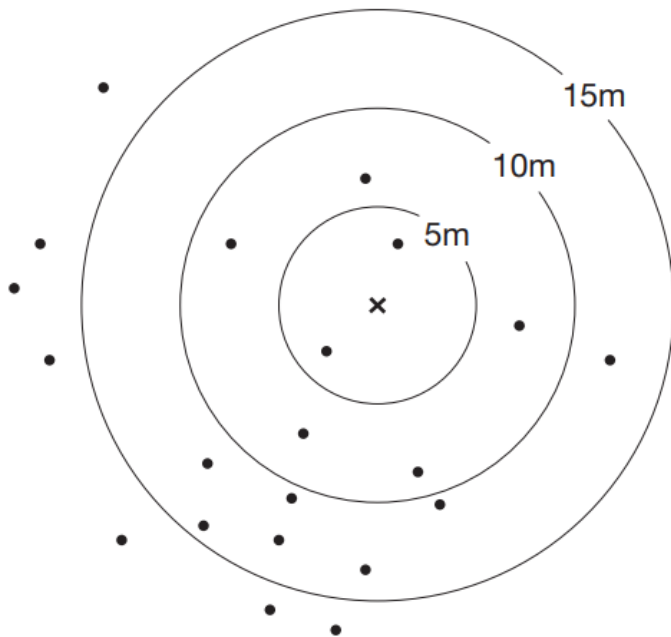
[2 marks]

10

Class 6 did a survey of mushrooms growing in a field.

[2015]

The diagram shows the distances of mushrooms from the centre of the field.




- × is the centre of the field
- is a mushroom

How many mushrooms were more than 10 metres from the centre?



What **fraction** of the mushrooms were less than 10 metres from the centre?

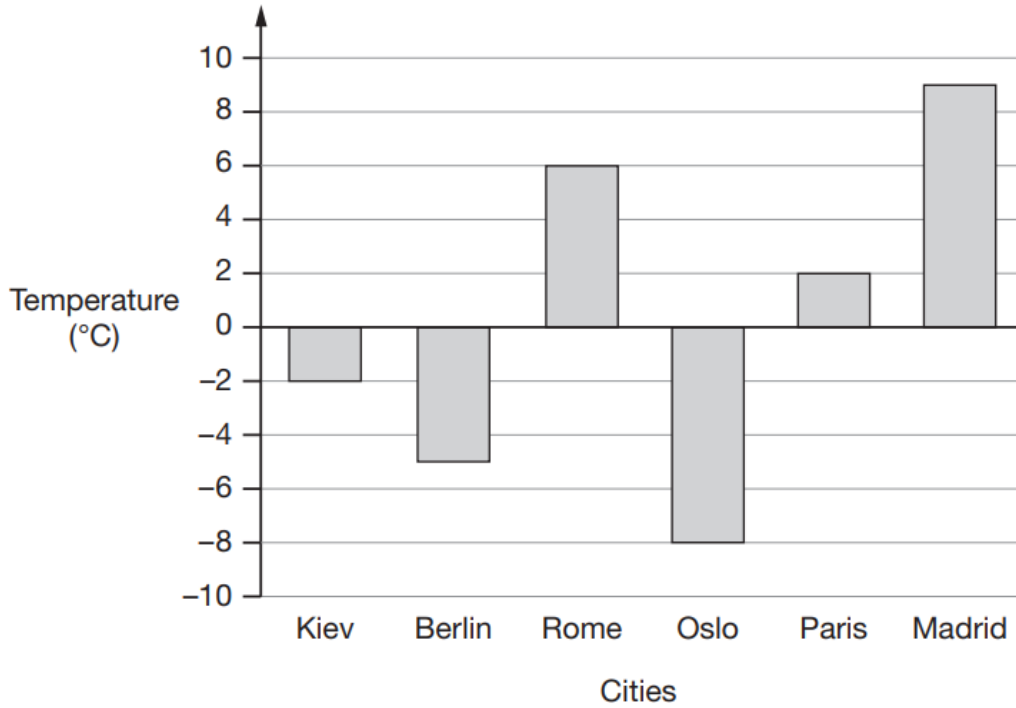


[2 marks]

14

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

[2016S]



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

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

°C

[2 marks]

63
64

Section Seven:

The Mean

1

Here are **three** numbers.

[Extra]

4 8 9

Show that the mean of these numbers is 7

[2 marks]

2

Here are **three** numbers.

[Extra]

7 8 3

Work out the mean of these numbers.

Show your method

[2 marks]

3

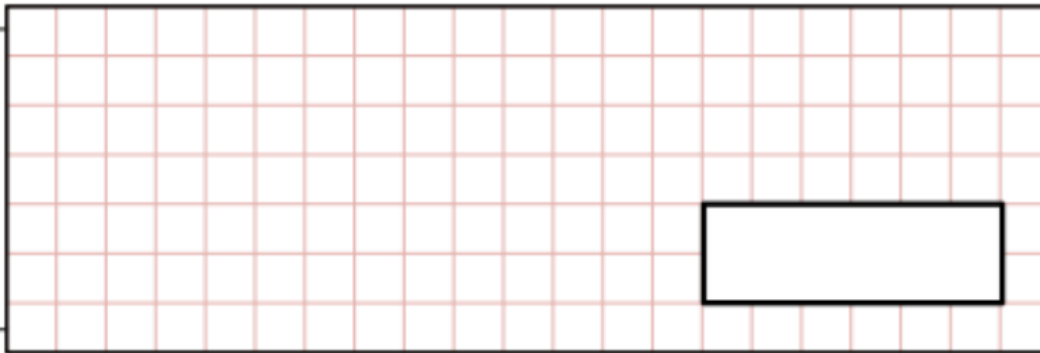
Seven children measured their heights.

[2016S]

Children	Height (cm)
Stefan	144
Lara	136
Olivia	142
Chen	143
Maria	152
Dev	148
Sarah	150

What is the mean height of the children?

Show your method



[2 marks]

4

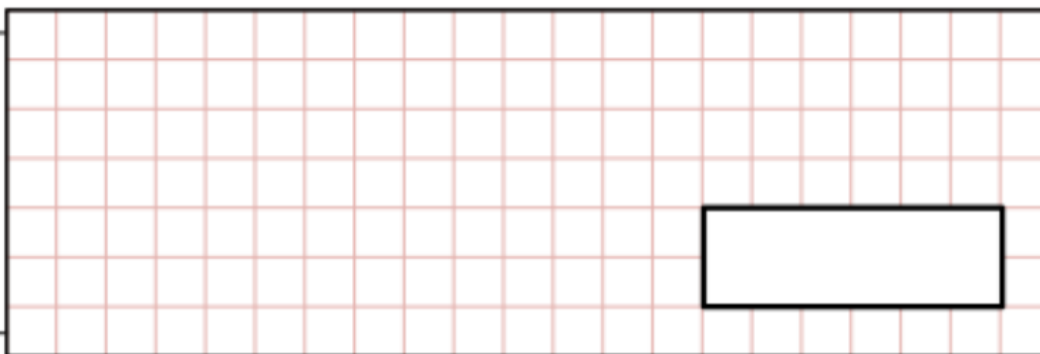
Two numbers have a mean of 12

[Extra]

One of the numbers is 9

What is the other number?

Show your method



[2 marks]

5

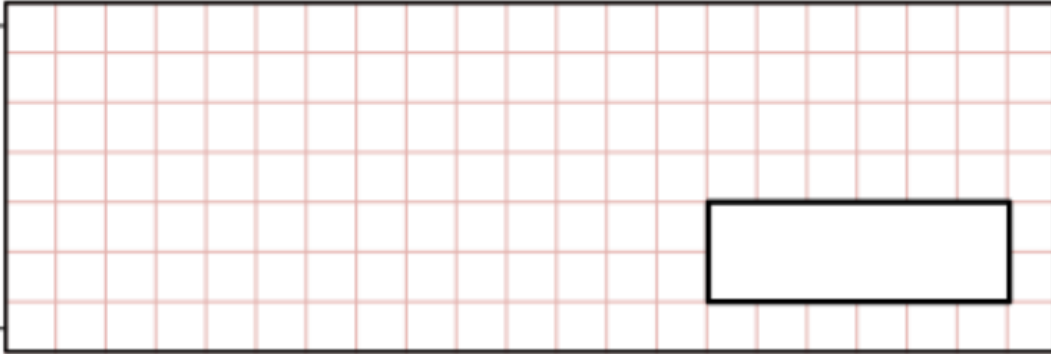
Three numbers have a mean of 13

[Extra]

Two of the numbers are 8 and 12

What is the other number?

Show your method



[2 marks]

6

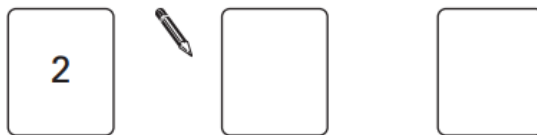
The **mean** of three numbers is 5

[Extra]

One of these numbers is 2

What could the other numbers be?

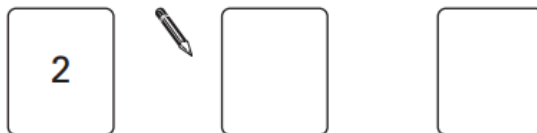
Write them on the cards below.



What else could the numbers be?

Use **different numbers** from your answer above.

Write them on the cards below.



[2 marks]

7

Hanif asked ten people:

[Extra]

'What is your favourite sport?'

Here are his results.

<i>football</i>	<i>cricket</i>	<i>football</i>	<i>hockey</i>	<i>swimming</i>
<i>hockey</i>	<i>swimming</i>	<i>football</i>	<i>netball</i>	<i>football</i>

Is it possible to work out the **mean** of these results?

Yes

No

Explain how you know.

[1 mark]

8

Three positive whole numbers are all different.

[Extra]

The mean of the numbers is 4

One of the numbers is 5

Find the other two numbers.

Show your method

[2 marks]

70
71

Section Eight:

Timetables

1

These are the opening times at Black Tower Castle.

[2013]

Monday	Closed
Tuesday to Friday	11am to 6:30pm
Saturday	10am to 6pm
Sunday	10:30am to 4:30pm

How many hours is the castle open on Saturdays?



hours

Alfie arrived at the castle at 5pm on a Thursday.

How long could he stay before closing time?



[2 marks]

2

William wants to travel to Paris by train.

[2017]

He needs to arrive in Paris by **5:30 pm**.Circle the **latest time** that William can leave London.

Leaves London	Arrives Paris
12:01	15:22
12:25	15:56
13:31	16:53
14:01	17:26
14:31	17:53
15:31	18:53
16:01	19:20

[1 mark]

3

Here is the morning timetable for Chen's class this week.

[2017]

Time	Mon	Tue	Wed	Thu	Fri
9:00 am–10:30 am	Maths	English	Maths	English	Maths
10:30 am–11:00 am	Break	Break	Break	Break	Break
11:00 am–12:00 pm	English	Maths	Science	Maths	English

What is the **total** number of hours for **English** on this timetable?

hours

[1 mark]

4

Here is part of the bus timetable from Riverdale to Mott Haven.

[2016]

Riverdale	10:02	10:12	10:31	10:48
Kingsbridge	10:11	10:21	10:38	10:55
Fordham	10:28	10:38	10:54	11:11
Tremont	10:36	10:44	11:00	11:17
Mott Haven	10:53	11:01	11:17	11:34

How many minutes does it take the 10:31 bus from Riverdale to reach Mott Haven?

minutes

Mr Evans is at Fordham at 10:30

What is the **earliest** time he can reach Tremont on the bus?

[2 marks]

5

Here are the sunrise and sunset times for some days in July.

[Extra]

Date	Sunrise	Sunset
7th	04:53	21:18
14th	05:00	21:12
21st	05:09	21:05
28th	05:18	20:55

How many minutes earlier is the sunset on 28th July than on 7th July?

minutes

[1 mark]

6

[2014]

Amy did a survey of what time people get up on a Sunday morning. This table shows her results for 150 people.

Time	number of people
before 7:00 am	13
7:00 am to 7:59 am	28
8:00 am to 8:59 am	59
9:00 am to 9:59 am	36
10 am and after	14

Look at the table.

How many people get up at **8 am or later**?



Amy says,

'Two-thirds of the 150 people in the survey get up before 9 am.'

Amy is correct.

Explain how you know.

[2 marks]

7

[2015]

Here is part of the morning bus timetable from Winton to Yansley.

Winton	9:35	9:55	10:15	10:35
Ingham	9:45	10:05	10:25	10:45
Carston	10:01	10:21	10:41	11:01
Dubley	10:23	10:43	11:03	11:23
Yansley	10:55	11:15	11:35	11:55

How many minutes does the bus take to get from Ingham to Dubley?

**minutes**

Megan is in Carston.

She wants to be in Yansley before 11:30

What is the time of the latest bus she can take from Carston?



:

One morning, the 10:35 bus from Winton gets to Carston
3 minutes early.

What time does it get to Carston?



:

[3 marks]

78
79

80

81