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mock papers 1-foundation

1 Here is a pictogram.
It shows the number of goals scored by Azeem, by Brad and by Chris.

Azeem	○
Brad	○ ○
Chris	○ ◔
Dean	

Key
○ represents 4 goals

(a) Write down the number of goals scored by Brad.

.....

(1)

(b) Write down the number of goals scored by Chris.

.....

(1)

Dean scored 6 goals.

(c) Show this information on the pictogram.

(1)

(Total for Question 1 is 3 marks)

2 The table gives information about the prices and the features of five mobile phones.

The ticks (✓) in the table show the features of each phone.

		Feature			
Mobile phone	**Price**	Camera	MP3	FM Radio	Video
Astra	£24.97	✓			
Crystal	£24.97	✓			✓
Pixar	£39.97	✓	✓	✓	
Spark	£34.23	✓		✓	✓
Tacco	£34.97	✓	✓	✓	✓

(a) Which of the five mobile phones is the most expensive?

.....

(1)

(b) Which of the mobile phones have MP3?

.....

(1)

(c) Which mobile phone has Video but **not** FM Radio?

.....

(1)

Mirza has a monthly plan for his mobile phone.
Each month, he pays a total of £9.79 plus the cost of any extra minutes.

Monthly Plan

For **£9.79** per month you get:

100 minutes and unlimited texts.

Extra minutes: 24.5p each

Last month, Mirza used 112 minutes.

(d) Work out how much he paid in total last month.

£ .....

(4)

(Total for Question 2 is 7 marks)

3 Lynn lives in Baston.
She is going to go to the cinema in Peterborough.
She will travel by bus between Baston and Peterborough.

Here is part of the bus timetable from Bourne to Peterborough and from Peterborough to Bourne.

Bourne to Peterborough							
Bourne	15 00	15 30	16 00	16 30	17 00	17 30	18 30
Baston	15 12	15 42	16 12	16 42	17 12	17 42	18 42
Market Deeping	15 20	16 00	16 20	17 00	17 20	18 00	18 50
Northborough	15 24	16 04	16 24	17 04	17 24	18 04	18 54
Glinton	15 28	16 08	16 28	17 08	17 28	18 08	18 58
Peterborough	15 40	16 20	16 40	17 20	17 40	18 20	19 10

Peterborough to Bourne							
Peterborough	17 30	17 45	18 00	18 30	19 30	2015	21 45
Glinton	17 42	17 57	18 12	18 42	19 42	20 27	21 57
Northborough	17 46	18 01	18 16	18 46	19 46	20 31	22 01
Market Deeping	17 50	18 05	18 20	18 50	19 50	20 35	22 05
Baston	18 05	18 10	18 35	19 05	19 55	20 50	22 10
Bourne	18 17	18 22	18 47	19 15	20 05	21 00	22 20

It takes Lynn 30 minutes to walk between the bus station in Peterborough and the cinema.
The latest bus she can catch home leaves Peterborough at 21 45

Lynn wants to watch a film called Sherlock Holmes.

Sherlock Holmes

Running time: 2 hours 14 minutes
Starts at: 4:15 pm, 5:15 pm, 7:10 pm

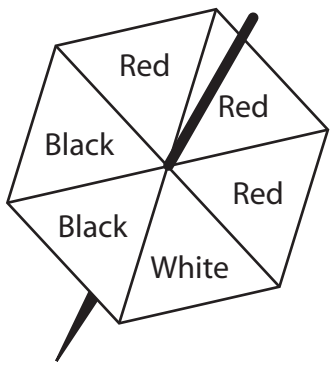
The film lasts for 2 hours 14 minutes.

Plan a schedule for Lynn's visit to the cinema.

Schedule	Time
Bus leaves Baston	
Bus arrives Peterborough	
Film starts	
Bus leaves Peterborough	
Bus arrives Baston	

(Total for Question 3 is 5 marks)

4



Here is a fair 6-sided spinner.
Jack will spin the spinner once.
The spinner will land on one of the colours.

Draw a circle around the word to best describe the probability of the following events.

(a) The spinner will land on White.

(1)

impossible unlikely even likely certain

(b) The spinner will land on Red.

(1)

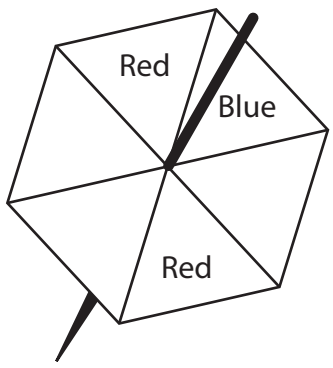
impossible unlikely even likely certain

(c) The spinner will land on Pink.

(1)

impossible unlikely even likely certain

Here is a different fair 6-sided spinner.
Jack will spin this spinner once.



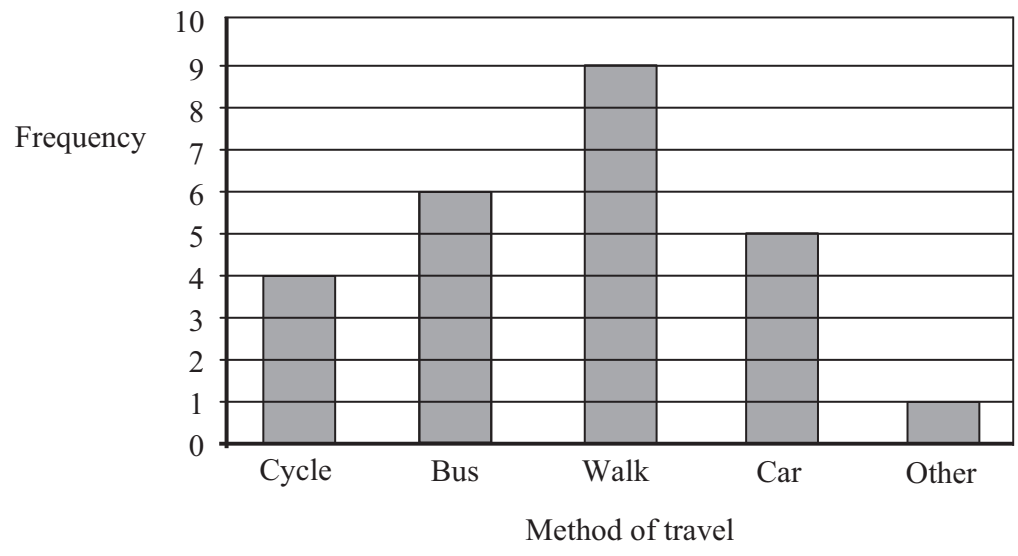
The spinner is more likely to land on Blue than to land on Red.

(d) Write the missing colours on the spinner.

(1)

(Total for Question 4 is 4 marks)

5 Shannon asked some students how they travelled to school.
She drew this bar chart to show the results.



(a) Which method of travel was used most by the students?

.....

(1)

More students walked to school than cycled to school.

(b) How many more?

.....

(1)

(c) Work out the number of students Shannon asked.

.....

(2)

(Total for Question 5 is 4 marks)

6 Matthew has five cards.
Each card has a number on it.

2	3	6	7	7

(a) Write down the median.

.....

(1)

James has three cards.
Each card has a number on it.
The numbers are hidden.

?	?	?

The mode of the three numbers is 4
The mean of the three numbers is 5

(b) Work out the three numbers on the cards.

..... , ... , ...

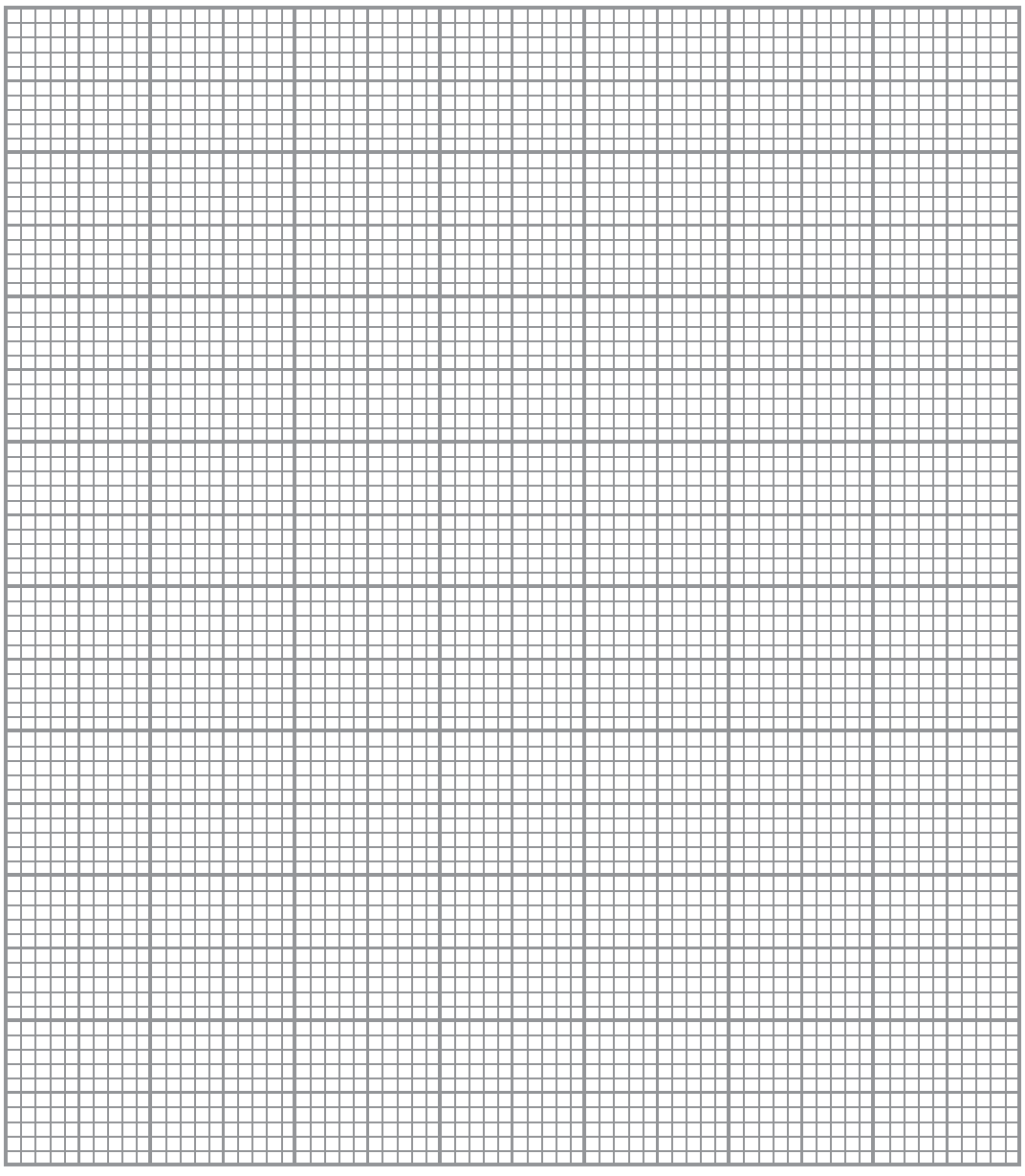
(2)

(Total for Question 6 is 3 marks)

***7** The table shows information about the number of Year 7 pupils absent from Keith's school last week.

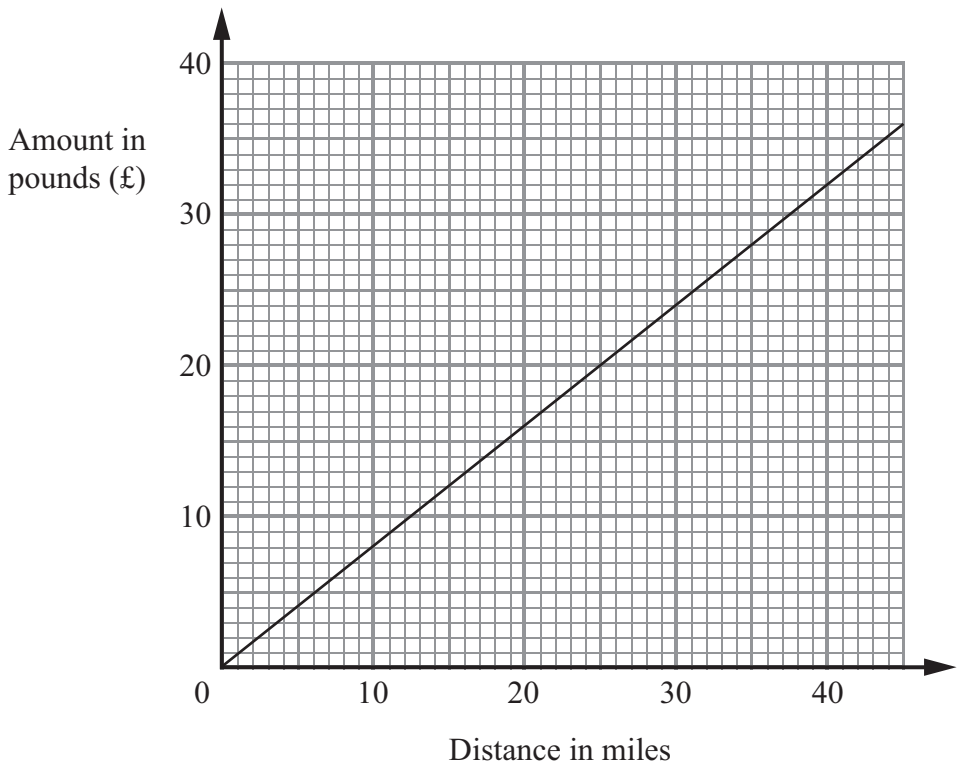
	Monday	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
Boys	8	11	12	14	13
Girls	10	9	12	13	11

Keith wants to compare this information.
On the grid, draw a suitable diagram or chart.



(Total for Question 7 is 4 marks)

8 Sophie's company pays her 80p for each mile she travels.
The graph can be used to work out how much her company pays her for travel.



Sophie travels 20 miles.

(a) Work out how much her company pays her.

£.....
(1)

Sophie's company paid her £60

(b) Work out the distance Sophie travelled.

..... miles
(2)

(Total for Question 8 is 3 marks)

9 Ouzma wants to find out the method of transport people use to travel to a shopping centre.

Design a suitable data collection sheet she could use to collect this information.

(Total for Question 9 is 3 marks)

10 The table gives information about the number of goals scored by a football team in each match last season.

Number of goals	Frequency
0	4
1	5
2	4
3	7
4	4

(a) Write down the modal number of goals scored.

.....

(1)

(b) Work out the total number of goals scored by the team last season.

.....

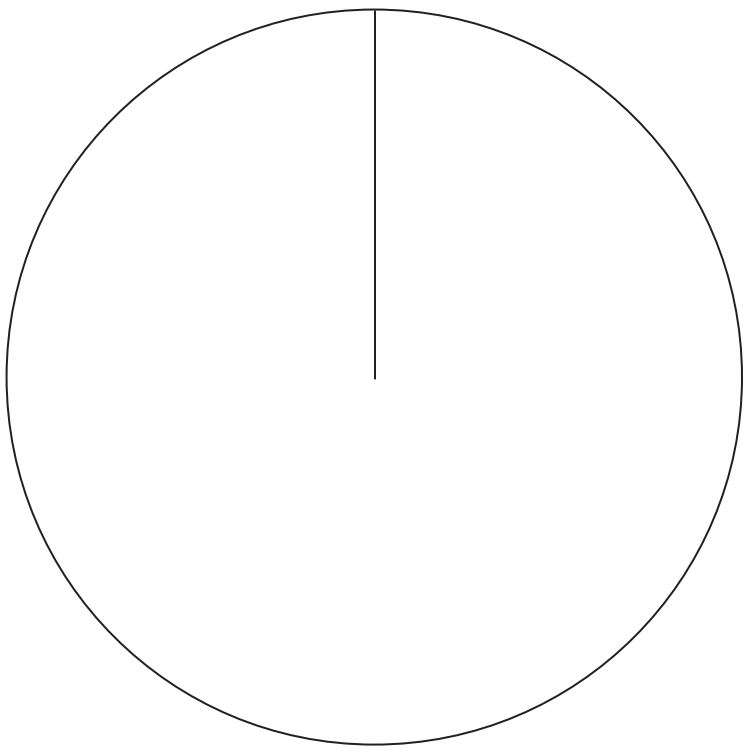
(2)

The table below gives information about the results of the matches played by the football team.

Result	Frequency
Won	10
Drew	6
Lost	8

(c) Draw an accurate pie chart to show this information.

(3)



(Total for Question 10 is 6 marks)

***11** Mr and Mrs Jones are planning a holiday to the Majestic Hotel in the Cape Verde Islands.

The table gives information about the prices of holidays to the Majestic Hotel.

MAJESTIC HOTEL, Cape Verde Islands		
Departures	**Price per adult**	
	7 nights	**14 nights**
1 Jan – 8 Jan	£ 694	£ 825
9 Jan – 28 Jan	£ 679	£ 804
29 Jan – 5 Feb	£ 687	£ 815
6 Feb – 18 Feb	£ 769	£ 835
19 Feb – 8 Mar	£ 714	£ 817
9 Mar – 31 Mar	£ 685	£ 805
1 April – 9 April	£ 788	£ 862
10 April – 30 April	£ 748	£ 802
Price per child: 95% of adult price for 7 nights or 85% of adult price for 14 nights.		

Mr and Mrs Jones are thinking about going on holiday

on 20 February for 7 nights
or on 10 April for 14 nights.

Mr and Mrs Jones have 2 children.

Compare the costs of these two holidays for the Jones family.

(Total for Question 11 is 5 marks)

12 Zoe recorded the heart rate of each of 15 people.
She showed her results in a stem and leaf diagram.

5	8 9
6	0 1 4 6 6 7
7	2 3 6 8 9
8	1 4

Key:
5|8 means 58 beats per minute

(a) Find the median heart rate.

..... beats per minute
(1)

(b) Work out the range of the heart rates.

..... beats per minute
(2)

Zoe then asked the 15 people to walk up some stairs.
Zoe recorded the heart rates again.

She used the results to work out the median and the range.

Median	78
Range	37

(c) Compare the heart rates of the people before they walked up the stairs with their heart rates after they walked up the stairs.

.....

.....

.....

.....

(2)

(Total for Question 12 is 5 marks)

13 120 children went on a school activities day.
Some children went bowling.
Some children went to the cinema.
The rest of the children went skating.

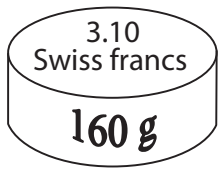
66 of these children were girls.
28 of the 66 girls went bowling.
36 children went to the cinema.
20 of the children who went to the cinema were girls.
15 boys went skating.

Work out the number of children who went bowling.

.....

(Total for Question 13 is 4 marks)

***14** Margaret is in Switzerland.
The local supermarket sells boxes of Reblochon cheese.



Each box of Reblochon cheese costs 3.10 Swiss francs.
It weighs 160 g.

In England, a box of Reblochon cheese costs £13.55 per kg.

The exchange rate is £1 = 1.65 Swiss francs.

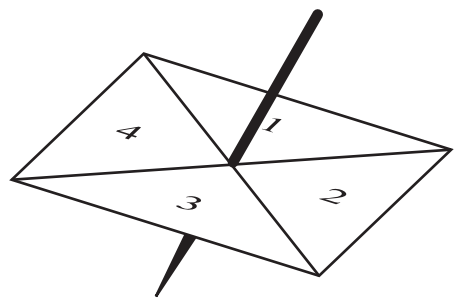
Work out whether Reblochon cheese is better value for money in Switzerland or in England.

(Total for Question 14 is 4 marks)

TOTAL FOR PAPER IS 60 MARKS

mock papers 2-higher

1 Laura has a four-sided spinner.
The spinner is biased.



The table shows each of the probabilities that the spinner will land on 1 or land on 3
The probability that the spinner will land on 2 is equal to the probability that it will land on 4

Number	1	2	3	4
Probability	0.25		0.35	

Laura is going to spin the spinner once.

(a) Work out the probability that the spinner will **not** land on 1

.....

(2)

(b) Work out the probability that the spinner will land on 2

.....

(2)

(Total for Question 1 is 4 marks)

***2** Mr and Mrs Jones are planning a holiday to the Majestic Hotel in the Cape Verde Islands.

The table gives information about the prices of holidays to the Majestic Hotel.

MAJESTIC HOTEL, Cape Verde Islands		
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Price per child: 95% of adult price for 7 nights or 85% of adult price for 14 nights.		

Mr and Mrs Jones are thinking about going on holiday

on 20 February for 7 nights
or on 10 April for 14 nights.

Mr and Mrs Jones have 2 children.

Compare the costs of these two holidays for the Jones family.

(Total for Question 2 is 5 marks)

3 Ouzma wants to find out the method of transport people use to travel to a shopping centre.

Design a suitable data collection sheet she could use to collect this information.

(Total for Question 3 is 3 marks)

***4** Zoe recorded the heart rates, in beats per minute, of each of 15 people.
Zoe then asked the 15 people to walk up some stairs.
She recorded their heart rates again.

She showed her results in a back-to-back stem and leaf diagram.

Before							After				
				9	8	5					
7	6	6	4	1	0	6	5	8	8	9	
	9	8	6	3	2	7	2	4	7	8	
				4	1	8	5	6	8		
						9	1	3	7		
						10	2				

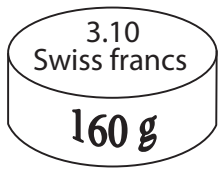
Key for before
8 | 5 means 58
beats per minute

Key for after
6 | 5 means 65
beats per minute

Compare the heart rates of the people before they walked up the stairs with their heart rates after they walked up the stairs.

(Total for Question 4 is 6 marks)

***5** Margaret is in Switzerland.
The local supermarket sells boxes of Reblochon cheese.



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It weighs 160 g.

In England, a box of Reblochon cheese costs £13.55 per kg.

The exchange rate is £1 = 1.65 Swiss francs.

Work out whether Reblochon cheese is better value for money in Switzerland or in England.

(Total for Question 5 is 4 marks)

6 120 children went on a school activities day.
Some children went bowling.
Some children went to the cinema.
The rest of the children went skating.

66 of these children were girls.
28 of the 66 girls went bowling.
36 children went to the cinema.
20 of the children who went to the cinema were girls.
15 boys went skating.

Work out the number of children who went bowling.

.....

(Total for Question 6 is 4 marks)

7 A company sends every item of mail by second class post.
Each item of mail is either a letter or a packet.

The tables show information about the cost of sending a letter by second class post and the cost of sending a packet by second class post.

Letter

Weight range	Second Class
0–100g	32p

Packet

Weight range	Second Class
0–100g	£1.17
101–250g	£1.51
251–500g	£1.95
501–750g	£2.36
751–1000g	£2.84

The company sent 420 items by second class post.
The ratio of the number of letters sent to the number of packets sent was 5 : 2

$\frac{2}{3}$ of the packets sent were in the weight range 0 – 100 g.

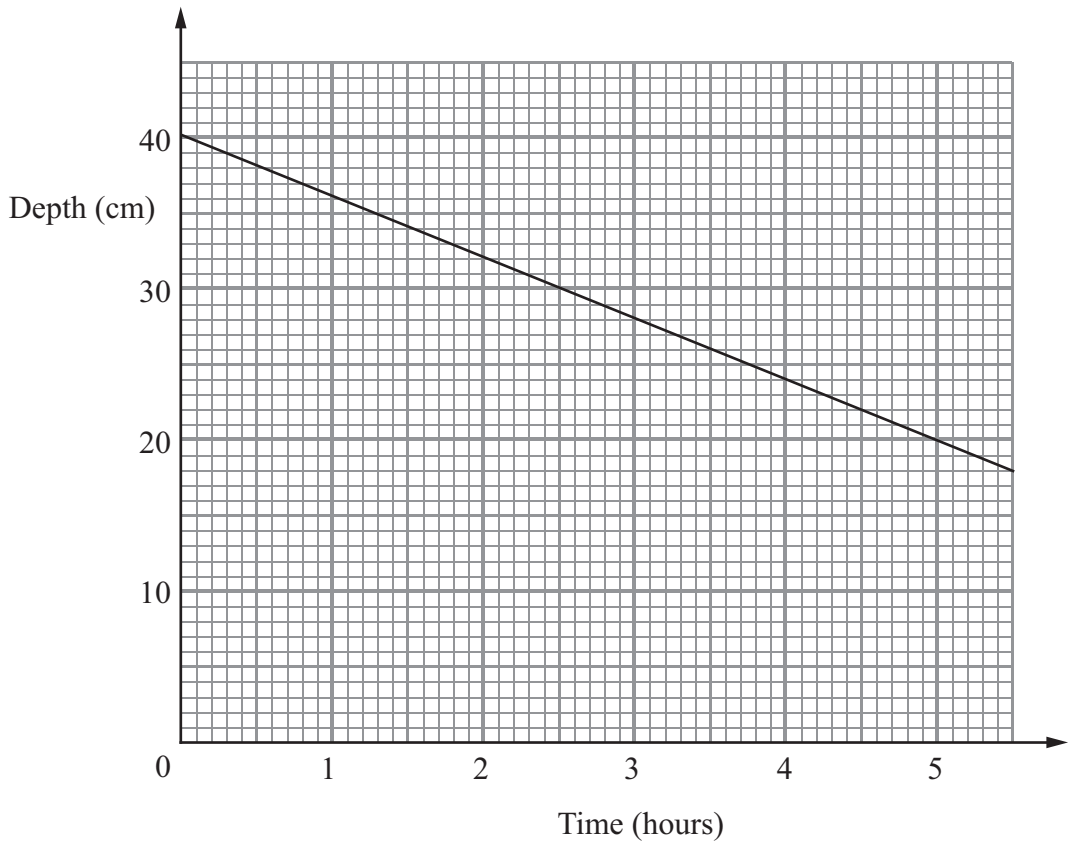
The other packets sent were in the weight range 101 – 250 g.

Work out the total cost of sending the 420 items by second class post.

£ .....

(Total for Question 7 is 5 marks)

8 Water flows out of a cylindrical tank at a constant rate.
The graph shows how the depth of water in the tank varies with time.



(a) Work out the gradient of the straight line.

.....

(2)

(b) Write down a practical interpretation of the value you worked out in part (a).

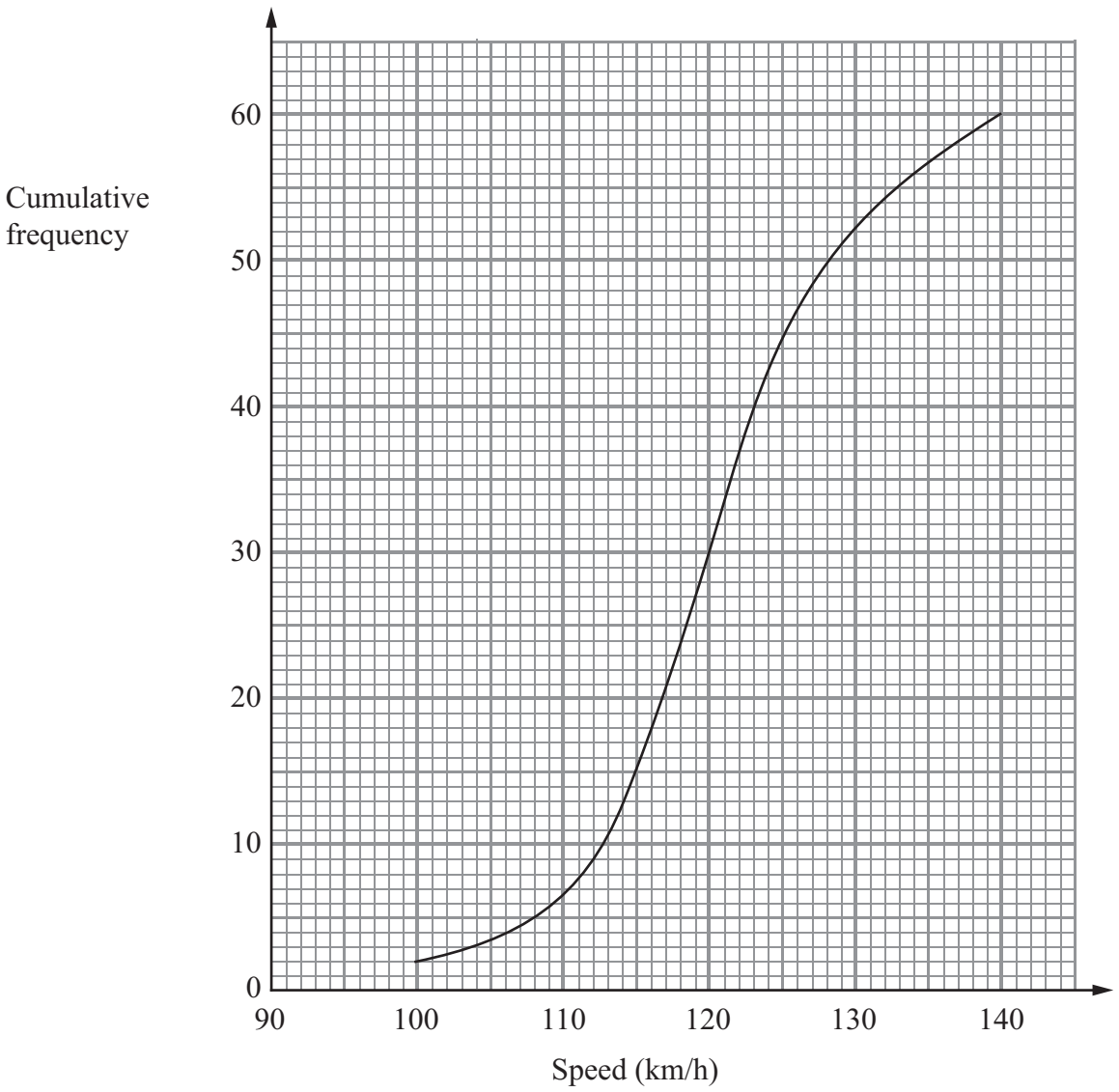
.....

.....

(1)

(Total for Question 8 is 3 marks)

9 The cumulative frequency graph shows information about the speeds of 60 cars on a motorway one Sunday morning.



(a) Use the graph to find an estimate for the median speed.

..... km/h

(1)

The speed limit on this motorway is 130 km/h.
The traffic police say that more than 20% of cars travelling on the motorway break the speed limit.

(b) Comment on what the traffic police say.

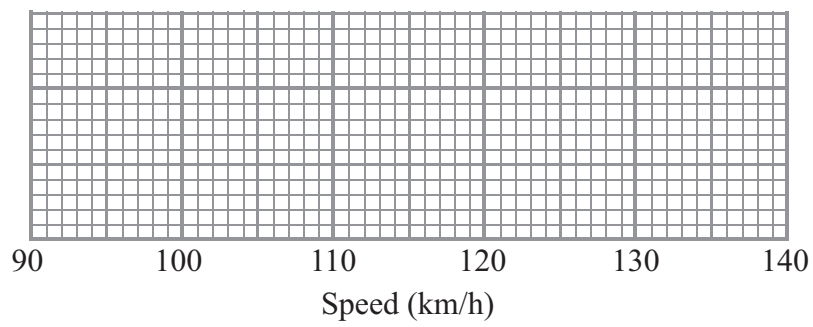
(3)

For these 60 cars

the minimum speed was 97 km/h
and the maximum speed was 138 km/h.

(c) Use the cumulative frequency graph and the information above to draw a box plot showing information about the speeds of the cars.

(3)



(Total for Question 9 is 7 marks)

10 The table gives some information about the weights, in kg, of 50 suitcases at an airport check-in desk.

Weight (w kg)	Frequency
$0 < w \leqslant 10$	16
$10 < w \leqslant 15$	18
$15 < w \leqslant 20$	10
$20 < w \leqslant 35$	6

(a) Work out an estimate for the mean weight.

..... kg

(4)

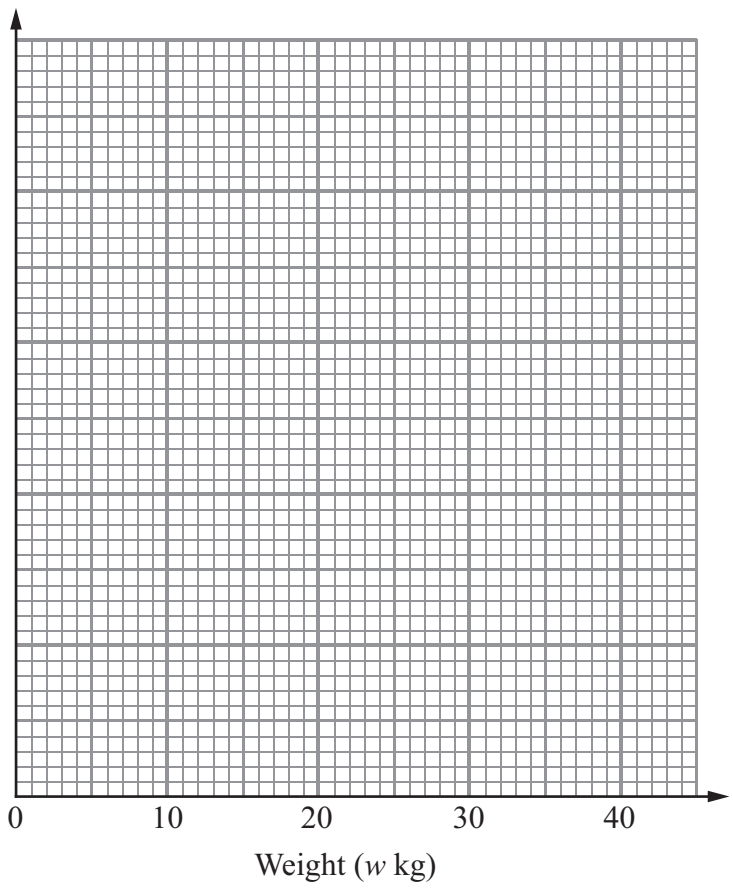
Passengers have to pay extra money for any suitcase that weighs more than 20 kg.
Two of the 50 suitcases are chosen at random.

(b) Work out the probability that both suitcases weigh more than 20 kg.

.....

(2)

(c) On the grid, draw a histogram for the information in the table.



(3)

(Total for Question 10 is 9 marks)

11 A factory makes 600 laptops.
Mrs Green is responsible for checking these laptops.
She is going to take a random sample of 80 of the laptops.

(a) Describe a method she could use to select the sample.

.....

.....

(1)

Mrs Green finds that 3 of the 80 laptops are faulty.

(b) Work out an estimate for how many of the 600 laptops are faulty.

.....

(2)

(Total for Question 11 is 3 marks)

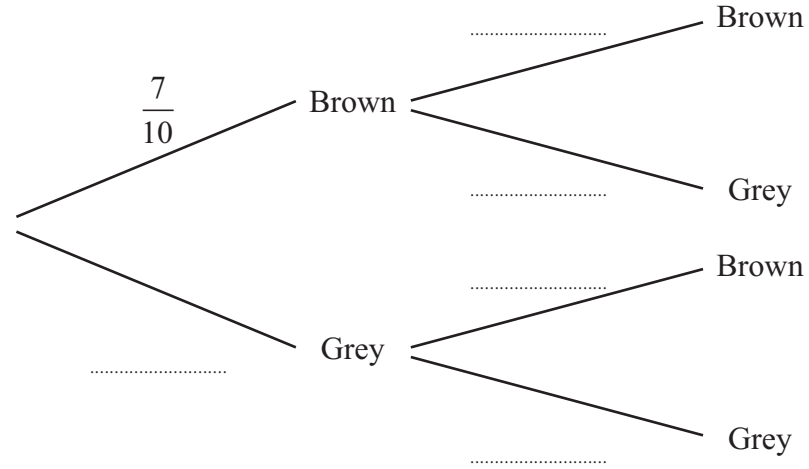
12 There are 10 socks in a drawer.

7 of the socks are brown.
3 of the socks are grey.

Bevan takes at random two socks from the drawer at the same time.

(a) Complete the probability tree diagram.

(2)



(b) Work out the probability that Bevan takes two socks of the same colour.

.....

(3)

(Total for Question 12 is 5 marks)

Turn over ▶

13 The table below shows the population of each of three villages.

Village	Population
Ashley	243
Brigby	370
Irton	127

Mr Akhtar carries out a survey of the people living in these three villages.
He uses a sample stratified by village population.

There are 50 people from Brigby in his sample.

Work out the number of people from Irton in his sample.

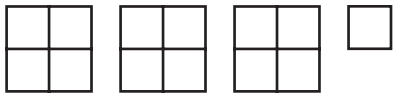
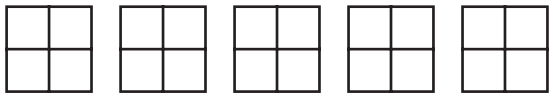
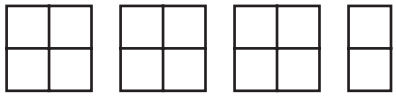
.....

(Total for Question 13 is 2 marks)

TOTAL FOR PAPER IS 60 MARKS

mock papers 3-foundation

1 The pictogram shows the numbers of parcels delivered to some houses on Monday, Tuesday and Wednesday.

Monday	
Tuesday	
Wednesday	
Thursday	
Friday	

Key:

 represents 8 parcels

(a) Write down the number of parcels delivered on Tuesday.

.....

(1)

(b) Write down the number of parcels delivered on Wednesday.

.....

(1)

24 parcels were delivered on Thursday.
18 parcels were delivered on Friday.

(c) Use this information to complete the pictogram.

(2)

(Total for Question 1 is 4 marks)

2 (a) How many minutes are there between 8.50 pm and 10.05 pm?

..... minutes
(1)

(b) (i) Write 15 25 using the 12-hour clock.

.....

(ii) Write 9.15 pm using the 24-hour clock.

.....
(2)

Lucy and Saad went to a cafe on the same day.

Lucy was in the cafe from 10.15 am to 10.45 am.
Saad was in the cafe from 10.25 am to 11.05 am.

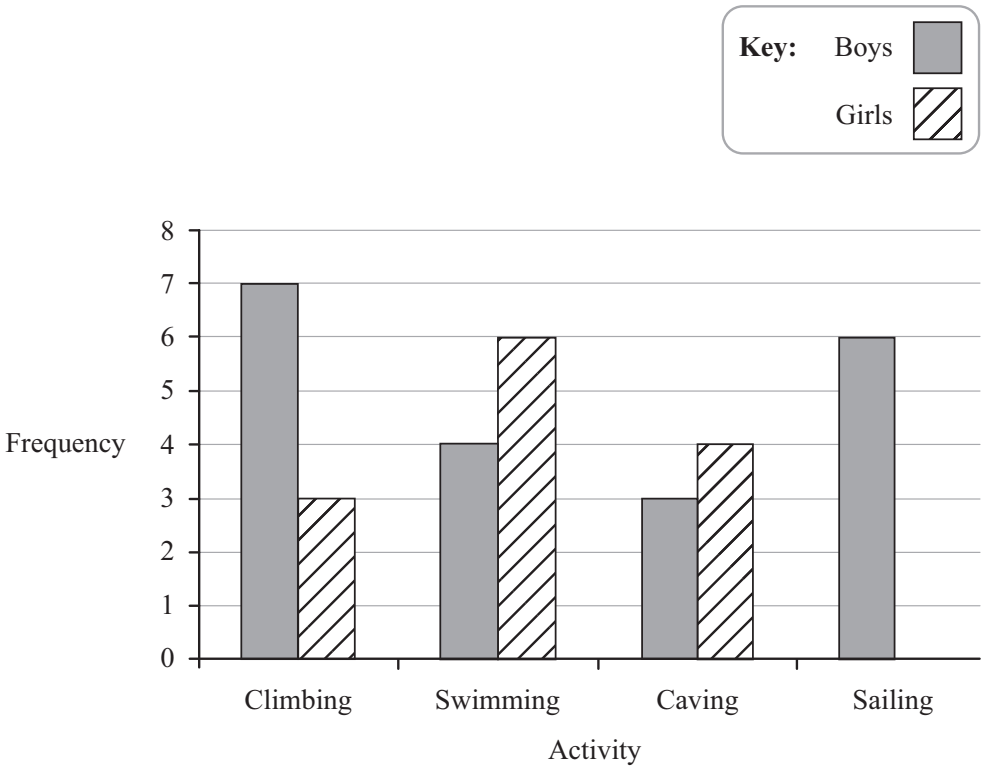
(c) Work out the number of minutes that Lucy and Saad were in the cafe at the same time.

..... minutes
(2)

(Total for Question 2 is 5 marks)

3 A teacher took some students on an Outdoor Activity trip.
Each student chose one activity to do.

The bar chart shows some information about the activities chosen.



(a) Which activity did most boys choose?

.....

(1)

(b) How many boys went on the Outdoor Activity trip?

.....

(2)

7 girls went sailing.

(c) Complete the bar chart.

(1)

(Total for Question 3 is 4 marks)

4 The table shows information about 6 students.

Name	Age in years	Tutor Group	Studying Spanish	Studying French
Callum	16	11A	Yes	No
Seema	16	11B	No	Yes
Mark	15	11B	Yes	Yes
Abby	15	11A	Yes	No
Ben	16	11B	No	Yes
Lori	15	11B	Yes	Yes

(a) Write down the number of students studying Spanish.

.....

(1)

(b) Write down the names of the students aged 15 years **and** in Tutor Group 11B.

.....

(1)

A student is going to be chosen at random.

(c) Write down the probability that this student is in Tutor Group 11A.

.....

(2)

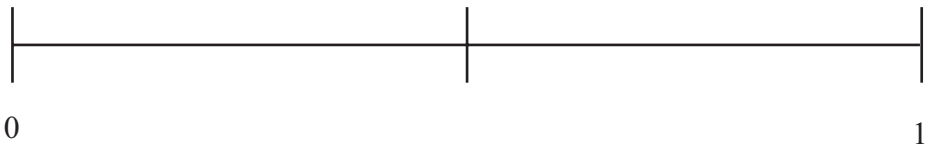
(Total for Question 4 is 4 marks)

5 A bag contains 4 beads.

2 beads are blue.
1 bead is red.
1 bead is yellow.

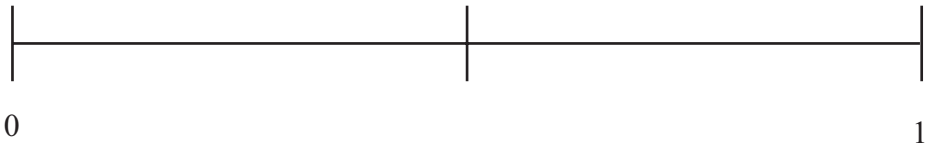
Connor takes at random a bead from the bag.

(a) On the probability scale, mark with a cross (X) the probability that he takes a blue bead.



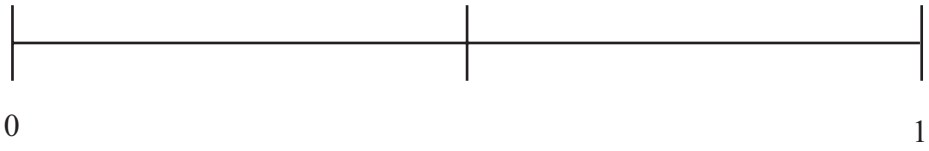
(1)

(b) On the probability scale, mark with a cross (X) the probability that he takes a yellow bead.



(1)

(c) On the probability scale, mark with a cross (X) the probability that he takes a white bead.



(1)

(Total for Question 5 is 3 marks)

6 Callum watched 20 cars go onto a ferry.
He counted the number of people in each car.

Here are his results.

1	3	3	4	1	2	2	3	5	4
2	2	4	5	1	3	2	2	3	2

(a) Complete the frequency table.

Number of people in a car	Tally	Frequency
1		
2		
3		
4		
5		

(2)

(b) Write down the mode.

.....

(1)

Fiona counted the number of cars going onto 6 ferries.

Here are her results.

20	18	23	17	15	21

(c) Calculate the mean number of cars.

.....

(2)

(Total for Question 6 is 5 marks)

7 There are 200 people in a cinema.

25% of the people are men.

$\frac{1}{5}$ of the people are women.

The rest of the people are children.

Work out how many children are in the cinema.

.....

(Total for Question 7 is 3 marks)

8 Glen writes down one letter from the word CAT.

Then he writes down one number from 1, 2, 3 and 4

C A T	1 2 3 4

List **all** the possible combinations Glen could write down.

.....

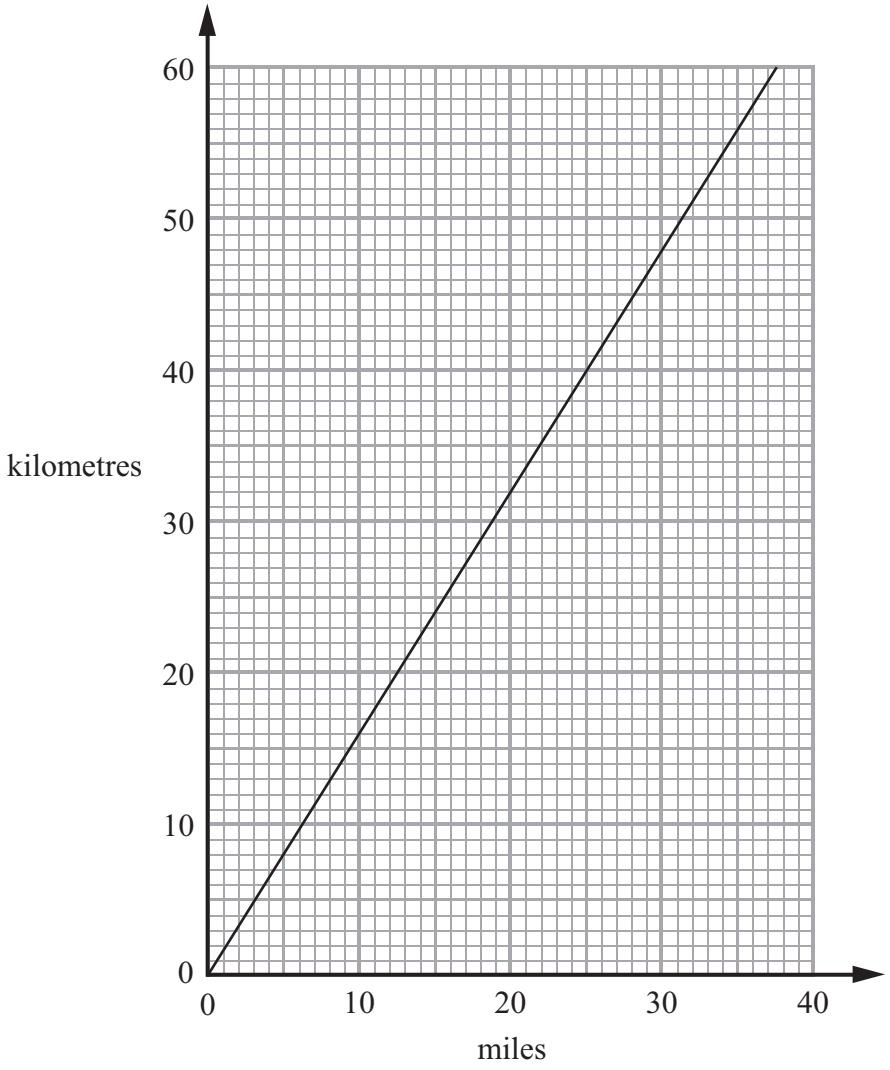
.....

.....

.....

(Total for Question 8 is 2 marks)

9 This conversion graph can be used to change between miles and kilometres.



(a) Use the graph to change 30 miles to kilometres.

..... kilometres
(1)

(b) Use the graph to change 40 kilometres to miles.

..... miles
(1)

(c) Change 100 miles to kilometres.

..... kilometres
(2)

(Total for Question 9 is 4 marks)

10 The stem and leaf diagram shows information about the ages, in years, of the people on a fairground ride.

0	8	8	9					
1	1	2	3	4	4	4	6	7
2	1	2	3	4	5	6	8	
3	1	4	8					
4	2	3	6	8				
5	0	3						

Key: 4 | 2 means 42 years

(a) How many people were on the fairground ride?

.....

(1)

(b) Work out the median age.

.....

(1)

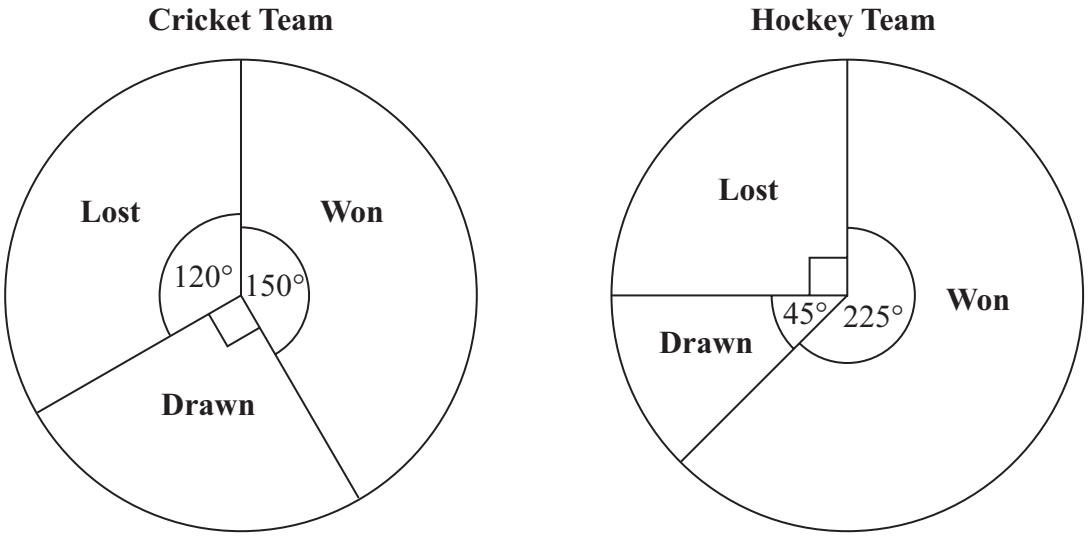
(c) Work out the range of the ages.

.....

(2)

(Total for Question 10 is 4 marks)

11 The pie charts show some information about the numbers of matches won, drawn and lost by a cricket team and by a hockey team last year.



The cricket team won 15 matches.

(a) How many matches did the cricket team lose?

.....

(2)

(b) Which team won the most matches last year?
Tick (✓) **one** box to show your answer.

☐ Cricket ☐ Hockey ☐ Not enough information

Explain your answer.

.....

.....

.....

.....

(1)

(Total for Question 11 is 3 marks)

12 A teacher asked 30 students if they had a school lunch or a packed lunch or if they went home for lunch.

17 of the students were boys.
4 of the boys had a packed lunch.
7 girls had a school lunch.
3 of the 5 students who went home were boys.

Work out the number of students who had a packed lunch.

.....

(Total for Question 12 is 4 marks)

13 Jake plays a game of throwing a ball at a target.

The table shows information about the probability of each possible score.

Score	0	1	2	3	4	5
Probability	0.09	x	0.18	0.16	0.21	0.30

Work out the value of x.

.....

(Total for Question 13 is 2 marks)

***14** Beth is planning a trip for a group of 36 people.
The group can go to a theme park **or** to a concert.

If they go to the concert, they will go by train.
If they go to the theme park, they will go by coach.

Beth has information about the costs.

Theme Park Ticket Prices

£9 per person

or

£6.50 per person

in a group of 10 or more people

Coach Hire

24 seats £260

40 seats £320

54 seats £410

Concert Ticket Price

£7.50

Return Train Fares

£8.25 each

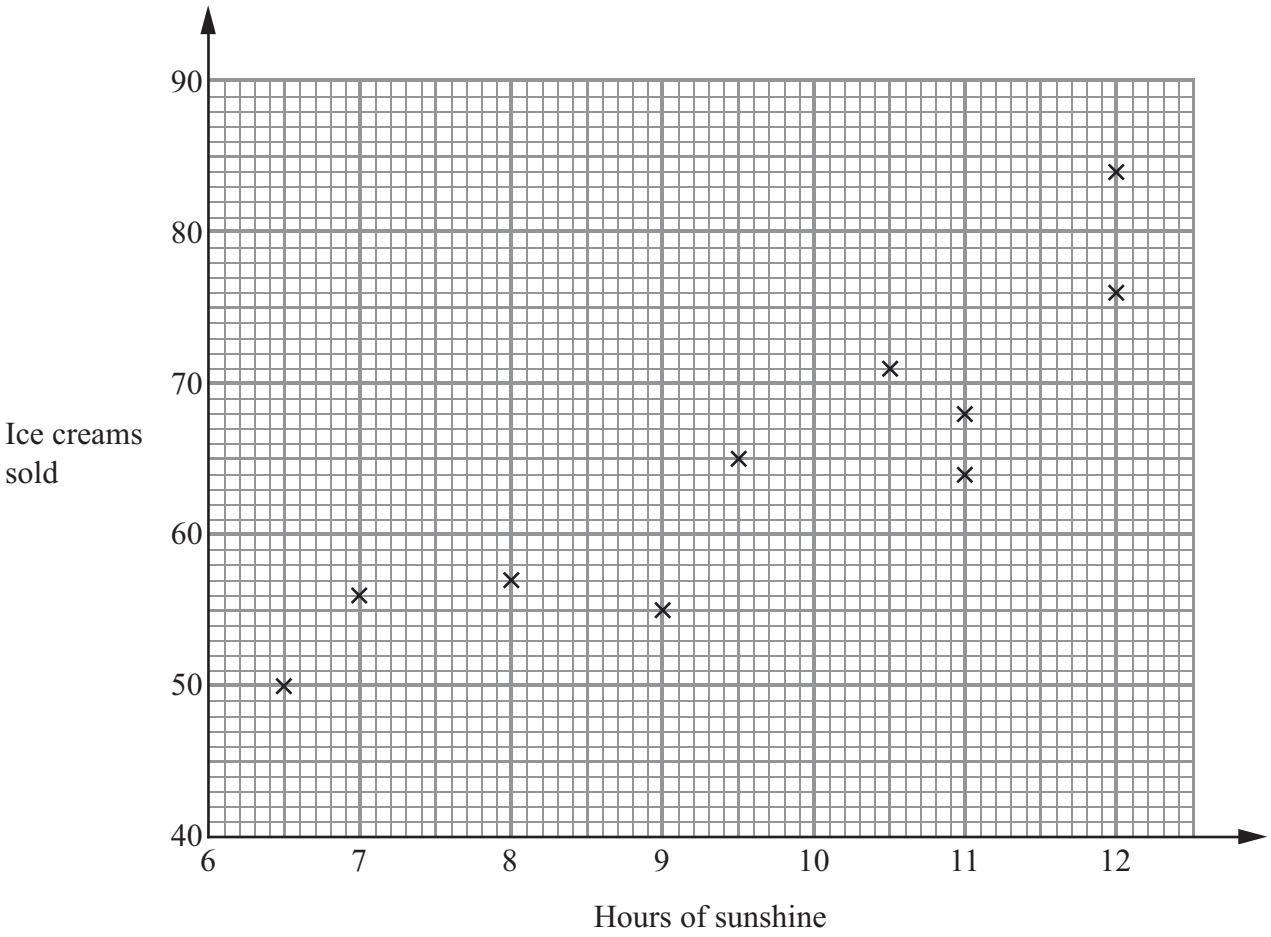
or

£26.50 for each group of 4 people

What is the least possible total cost of the trip?
You must show all your working.

15 A beach cafe sells ice creams.
Each day the manager records the number of hours of sunshine and the number of ice creams sold.

The scatter graph shows this information.



On another day there were 11.5 hours of sunshine and 73 ice creams sold.

(a) Show this information on the scatter graph.

(1)

(b) Describe the relationship between the number of hours of sunshine and the number of ice creams sold.

.....

.....

(1)

One day had 10 hours of sunshine.

(c) Estimate how many ice creams were sold.

.....

(2)

(Total for Question 15 is 4 marks)

16 (a) Dan is doing a survey to find out how much time students spend playing sport.
He is going to ask the first 10 boys on the register for his PE class.

This may **not** produce a good sample for Dan's survey.

Give **two** reasons why.

Reason 1

.....

.....

.....

Reason 2

.....

.....

.....

(2)

(b) Design a suitable question for Dan to use on a questionnaire to find out how much time students spend playing sport.

(2)

(Total for Question 16 is 4 marks)

TOTAL FOR PAPER IS 60 MARKS

mock papers 4-higher

1 (a) Dan is doing a survey to find out how much time students spend playing sport.
He is going to ask the first 10 boys on the register for his PE class.

This may **not** produce a good sample for Dan's survey.

Give **two** reasons why.

Reason 1

.....

.....

.....

Reason 2

.....

.....

.....

(2)

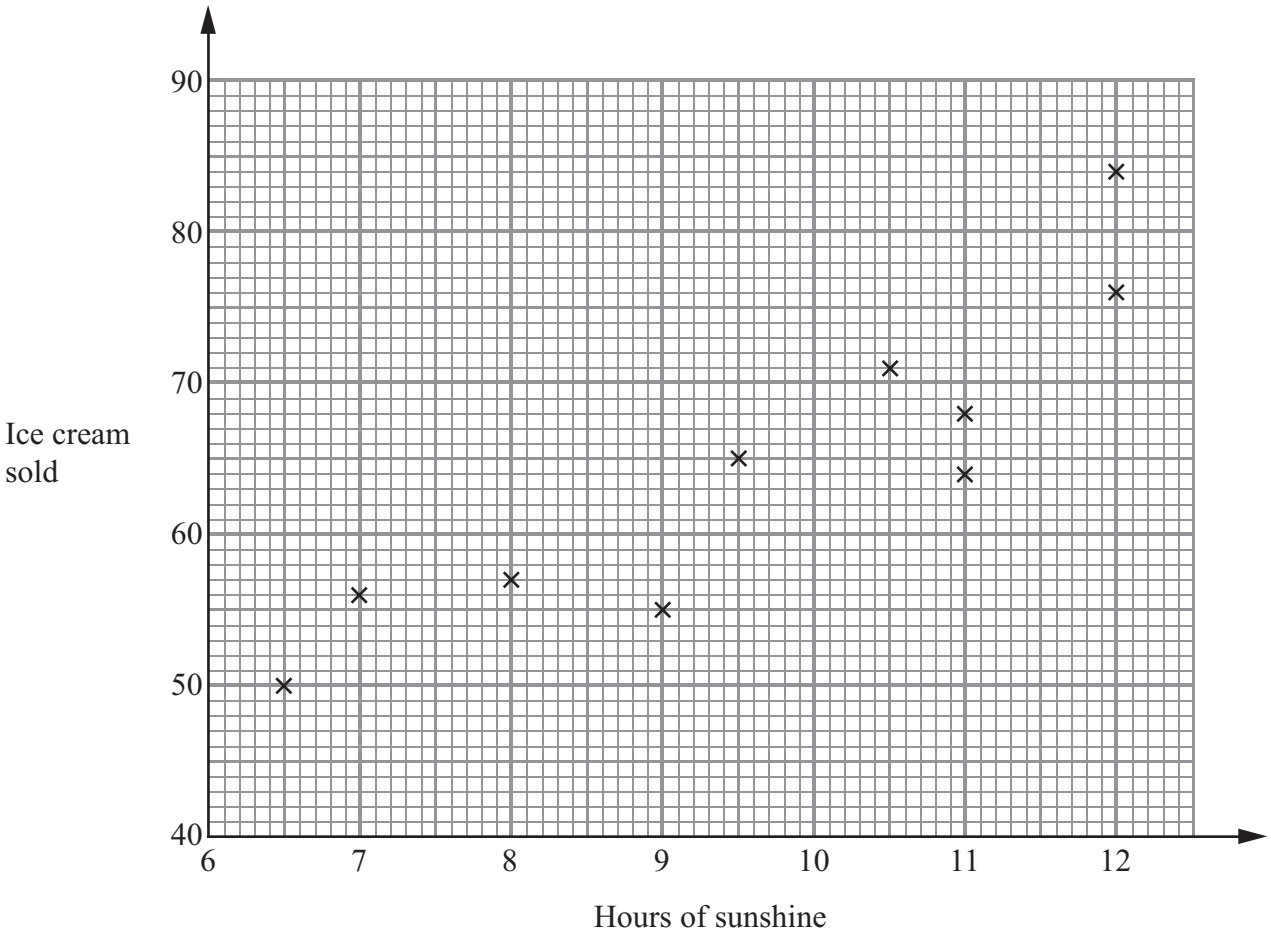
(b) Design a suitable question for Dan to use on a questionnaire to find out how much time students spend playing sport.

(2)

(Total for Question 1 is 4 marks)

2 A beach cafe sells ice creams.
Each day the manager records the number of hours of sunshine and the number of ice creams sold.

The scatter graph shows this information.



On another day there were 11.5 hours of sunshine and 73 ice creams sold.

(a) Show this information on the scatter graph.

(1)

(b) Describe the relationship between the number of hours of sunshine and the number of ice creams sold.

.....

.....

(1)

One day had 10 hours of sunshine.

(c) Estimate how many ice creams were sold.

.....

(2)

(Total for Question 2 is 4 marks)

3 A shop sells freezers and cookers.

The ratio of the number of freezers sold to the number of cookers sold is 5 : 2
The shop sells a total of 140 freezers and cookers in one week.

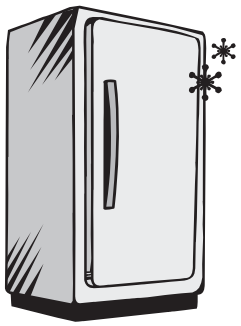
*(a) Work out the number of freezers and the number of cookers sold that week.

(3)

Jake buys this freezer in a sale.
The price of the freezer is reduced by 20%.

(b) Work out how much Jake saves.

Freezer
Original Price
£145



£ .....

(2)

(Total for Question 3 is 5 marks)

4 A teacher asked 30 students if they had a school lunch or a packed lunch or if they went home for lunch.

17 of the students were boys.
4 of the boys had a packed lunch.
7 girls had a school lunch.
3 of the 5 students who went home were boys.

Work out the number of students who had a packed lunch.

.....

(Total for Question 4 is 4 marks)

5 The probability that a seed will grow into a flower is 0.85
Loren plants 800 seeds.

Work out an estimate for the number of these seeds that will grow into flowers.

.....

(Total for Question 5 is 2 marks)

6 There are 15 bags of apples on a market stall.
The mean number of apples in each bag is 9

The table below shows the numbers of apples in **14** of the bags.

Number of apples	Frequency
7	2
8	3
9	3
10	4
11	2

Calculate the number of apples in the 15th bag.

.....

(Total for Question 6 is 3 marks)

7 Kelly recorded the length of time 48 teachers took to travel to school on Monday.

The table shows information about these travel times in minutes.

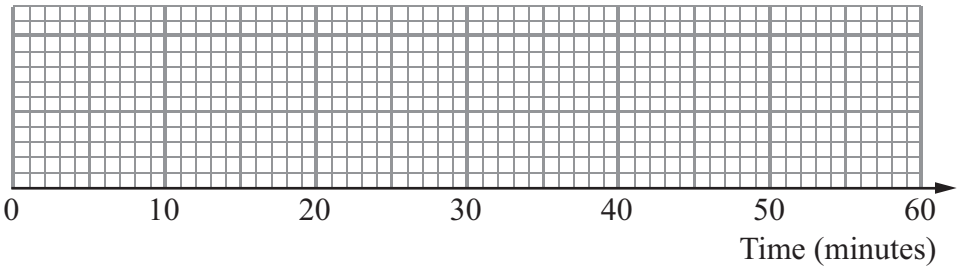
Least time	5
Greatest time	47
Median	28
Lower quartile	18
Upper quartile	35

(a) Work out the number of teachers with a travel time of 35 minutes or more.

.....

(2)

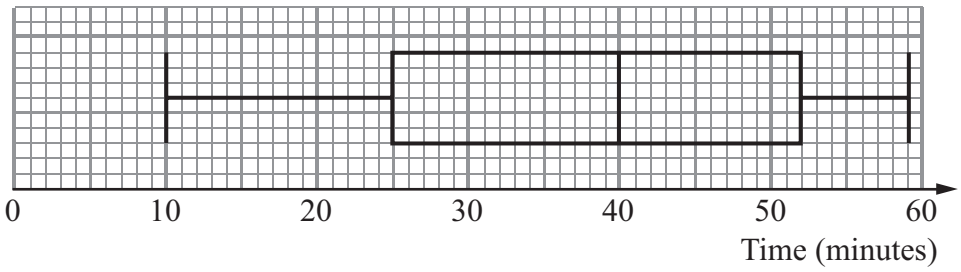
(b) On the grid, draw a box plot to show the information in the table.



(2)

Kelly then recorded the times the same 48 teachers took to travel to school on Tuesday.

The box plot shows some information about these times.



(c) Compare the travel times on Monday and on Tuesday.

.....

.....

.....

.....

(2)

(Total for Question 7 is 6 marks)

***8** Jon and Alice are planning a holiday.
They are going to stay at a hotel.

The table shows information about prices at the hotel.

	Price per person per night (£)		Dinner (£)
	Double room	**Single room**	**per person per day**
01 Nov – 29 April	59.75	118.00	31.75
30 April – 08 July	74.25	147.00	31.00
09 July – 29 Aug	81.75	161.75	31.00
30 Aug – 31 Oct	74.25	147.00	31.00

Saver Prices
5 nights for the price of 4 nights from 1st May to 4th July.
3 nights for the price of 2 nights in November.

Jon and Alice will stay in a double room.
They will eat dinner at the hotel every day.

They can stay at the hotel for 3 nights in June or 4 nights in November.

Which of these holidays is cheaper?

(Total for Question 8 is 5 marks)

9 Mary plays a game of throwing a ball at a target.

The table shows information about the probability of each possible score.

Score	0	1	2	3	4	5
Probability	0.09	x	$3x$	0.16	0.21	0.30

Mary is 3 times as likely to score 2 points than to score 1 point.

(a) Work out the value of x.

.....

(3)

Mary plays the game twice.

(b) Work out the probability of Mary scoring a total of 8

.....

(3)

(Total for Question 9 is 6 marks)

10 The table shows some information about the weights, in grams, of 60 eggs.

Weight (w grams)	Frequency		
$0 < w \leqslant 30$	0		
$30 < w \leqslant 50$	14		
$50 < w \leqslant 60$	16		
$60 < w \leqslant 70$	21		
$70 < w \leqslant 100$	9		

(a) Calculate an estimate for the mean weight of an egg.

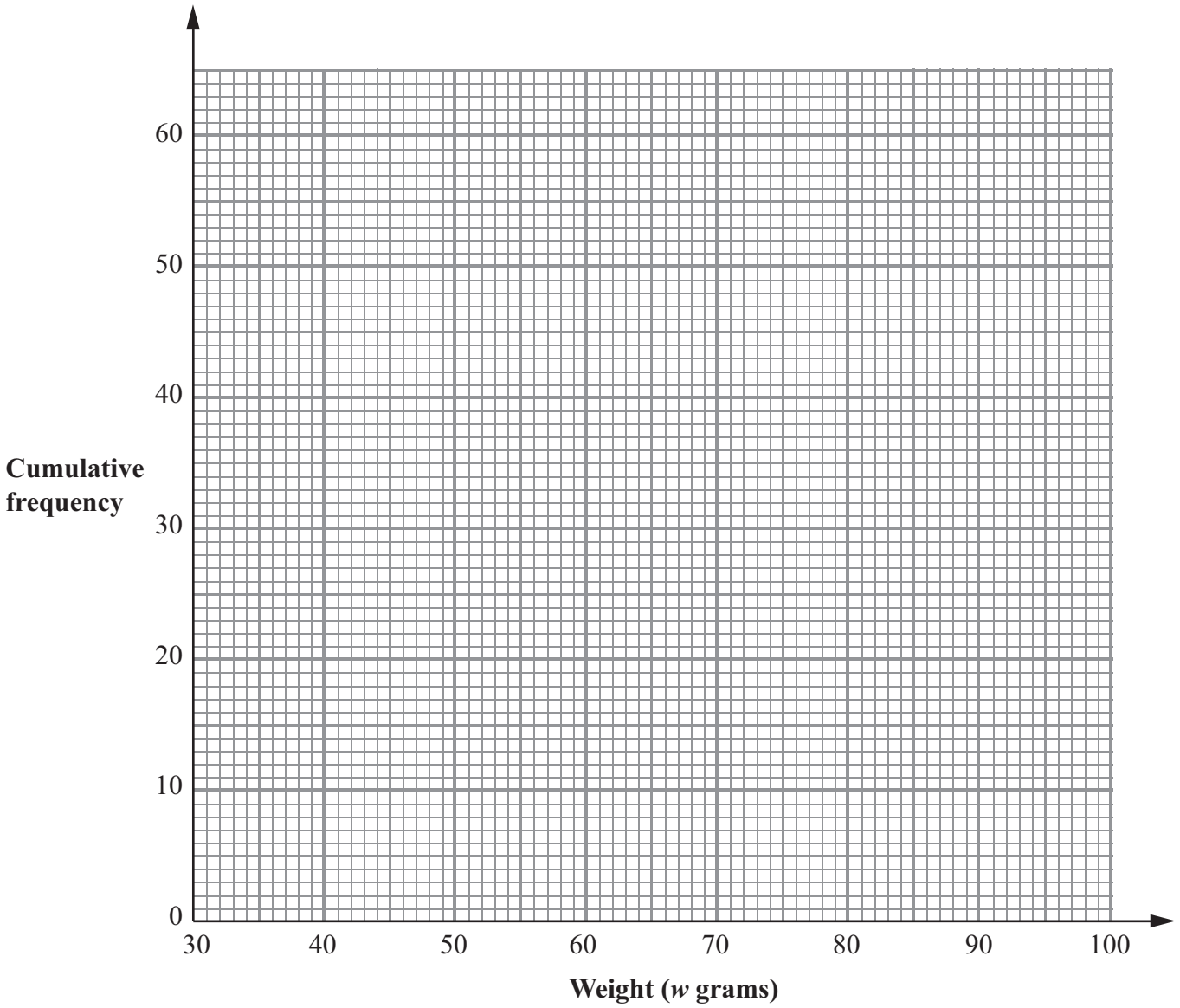
..... g

(4)

(b) Complete the cumulative frequency table.

Weight (w grams)	Cumulative frequency
$0 < w \leqslant 30$	0
$0 < w \leqslant 50$	
$0 < w \leqslant 60$	
$0 < w \leqslant 70$	
$0 < w \leqslant 100$	

(1)



(c) On the grid, draw a cumulative frequency graph for your table.

(2)

(d) Use your graph to find an estimate for the number of eggs with a weight greater than 63 grams.

.....

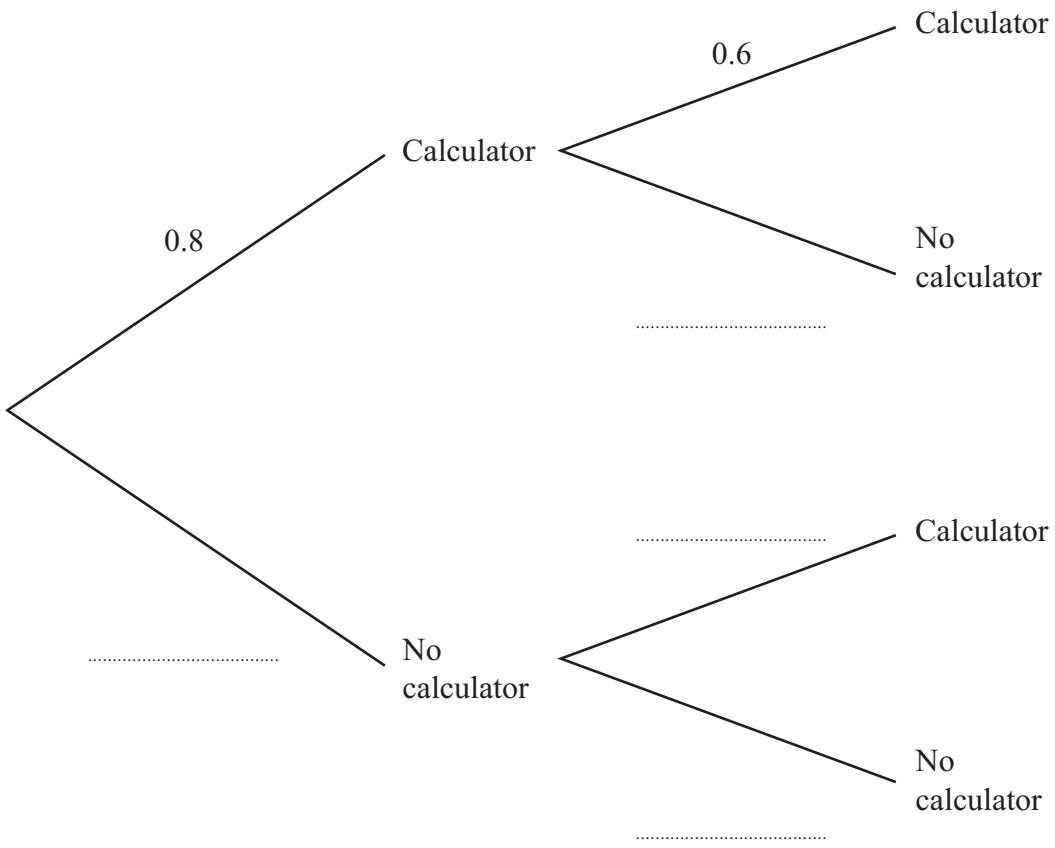
(2)

(Total for Question 10 is 9 marks)

11 Martin and Luke are students in the same maths class.

The probability that Martin will bring a calculator to a lesson is 0.8
The probability that Luke will bring a calculator to a lesson is 0.6

(a) Complete the probability tree diagram.



(2)

(b) Work out the probability that **both** Martin and Luke will **not** bring a calculator to a lesson.

.....

(2)

(Total for Question 11 is 4 marks)

12 182 students go to an outdoor activity centre for a day.
Each student chooses one activity, climbing or sailing.

The table shows information about the activities the students chose.

	Activity chosen	
	Climbing	**Sailing**
Male	34	57
Female	26	65

The manager of the centre gives a questionnaire to some of the students.
He takes a sample of 50 students stratified by gender and the activity chosen.

Work out the number of male students who chose climbing he should have in his sample.

.....

(Total for Question 12 is 2 marks)

13 Aminata invested £2500 for n years in a savings account.
She was paid 3% per annum compound interest.

At the end of n years, Aminata has £2813.77 in the savings account.

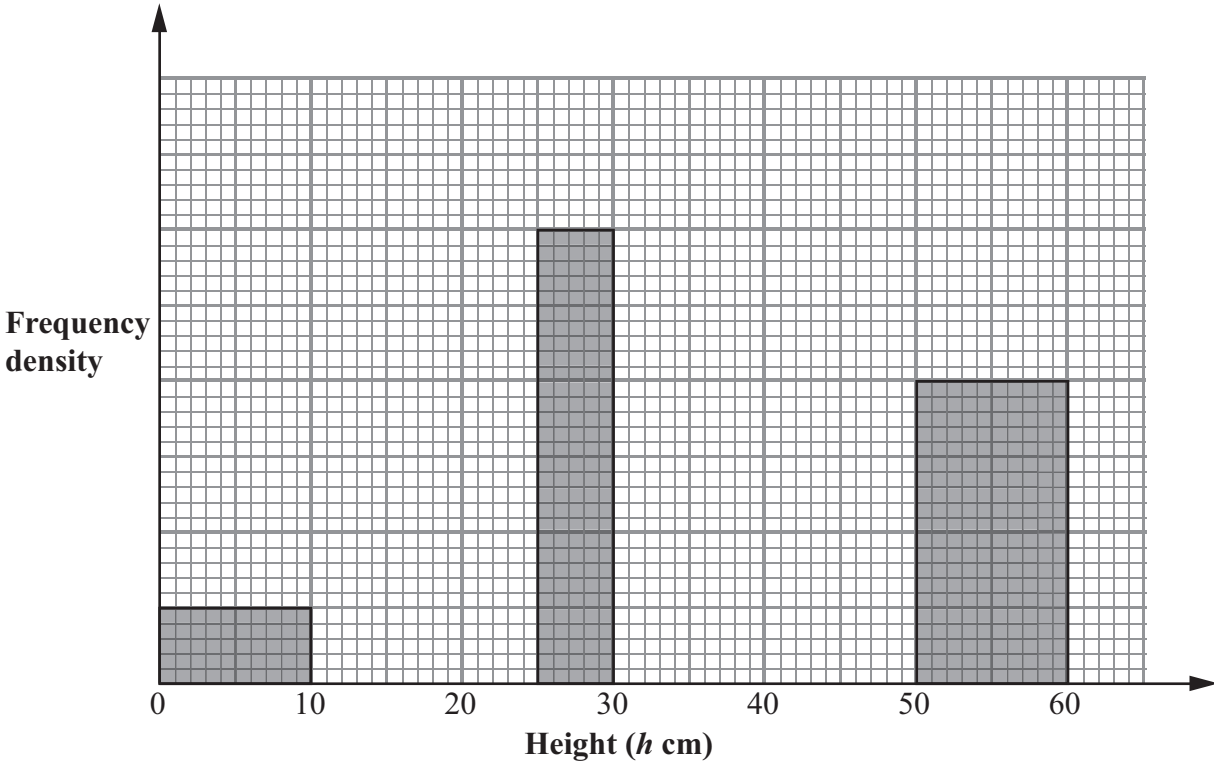
Work out the value of n.

.....

(Total for Question 13 is 2 marks)

14 The incomplete frequency table and histogram give some information about the heights, in centimetres, of some tomato plants.

Height (h cm)	Frequency
$0 < h \leqslant 10$	
$10 < h \leqslant 25$	30
$25 < h \leqslant 30$	
$30 < h \leqslant 50$	50
$50 < h \leqslant 60$	20



(a) Use the information in the histogram to complete the table.

(2)

(b) Use the information in the table to complete the histogram.

(2)

(Total for Question 14 is 4 marks)

TOTAL FOR PAPER IS 60 MARKS

mock papers 5-foundation

1 Here is the value of each of 20 coins.

50p	10p	£1	20p	£1
20p	£1	20p	50p	10p
50p	20p	20p	£1	20p
£1	£1	20p	20p	£1

(a) Complete the table.

Value of coin	Tally	Frequency
10p		
20p		
50p		
£1		

(3)

(b) Work out the total value of the 20 coins.

£ .....

(2)

(Total for Question 1 is 5 marks)

2 The table shows information about 5 cameras.

Camera	Specification		
	Cost (£)	Weight (grams)	Resolution (megapixels)
A	134	467	10
B	280	186	12
C	119	152	10
D	280	206	12
E	299	515	12

(a) Which of these cameras costs the most?

.....

(1)

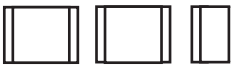
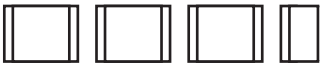
Two of these cameras cost under £200

(b) Which of these two cameras weighs the most?

.....

(1)

The pictogram shows the number of cameras sold in a shop in week 1, in week 2, in week 3 and in week 4.

week 1	
week 2	
week 3	
week 4	
week 5	

(c) How many cameras were sold in week 2?

.....

(1)

(d) How many cameras were sold in week 3?

.....

(1)

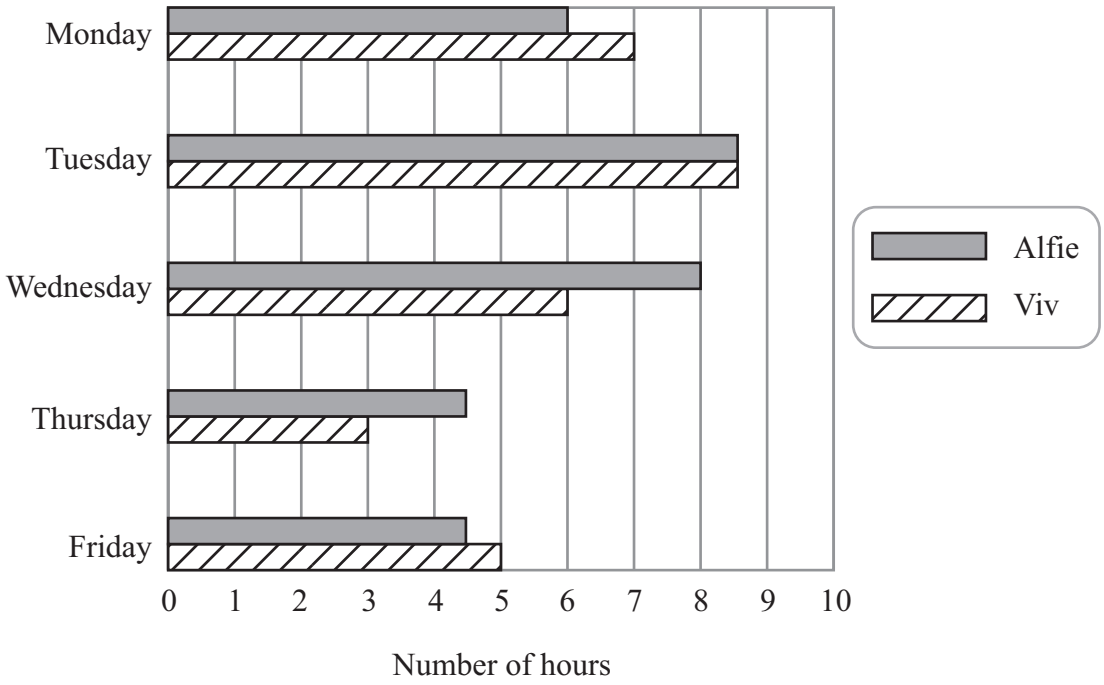
12 cameras were sold in week 5

(e) Show this on the pictogram.

(1)

(Total for Question 2 is 5 marks)

3 The dual bar chart shows information about the numbers of hours Viv and Alfie worked on each day from Monday to Friday last week.



Viv worked more hours than Alfie on **two** of these days.

(a) Write down these two days.

.....

and .....

(2)

Alfie worked more hours, in total, than Viv from Monday to Friday last week.

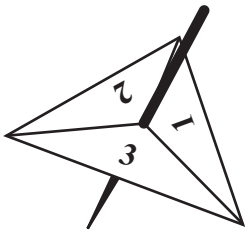
(b) Work out how many more hours.

..... hours

(3)

(Total for Question 3 is 5 marks)

4 Angela has a 3-sided spinner.
The sides of the spinner are numbered 1, 2 and 3



(a) Angela spins the spinner once.

(i) Choose the word that best describes the probability that the spinner will land on the number 4

impossible unlikely evens likely certain

.....

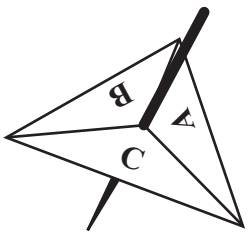
(ii) Choose the word that best describes the probability that the spinner will land on a number less than 4

impossible unlikely evens likely certain

.....

(2)

Steve also has a 3-sided spinner.
The sides of Steve's spinner are lettered A, B and C.



Angela spins her spinner once.
Steve then spins his spinner once.

(b) List all the possible outcomes of these two spins.

.....

.....

(2)

(Total for Question 4 is 4 marks)

5 The table shows the midday temperature on each day for ten days.

Day	1	2	3	4	5	6	7	8	9	10
Temperature (°C)	13	14	12	10	13	16	14	13	18	16

(a) Find the range of temperatures.

..... °C

(2)

(b) Write down the mode.

..... °C

(1)

(c) Work out the mean temperature.

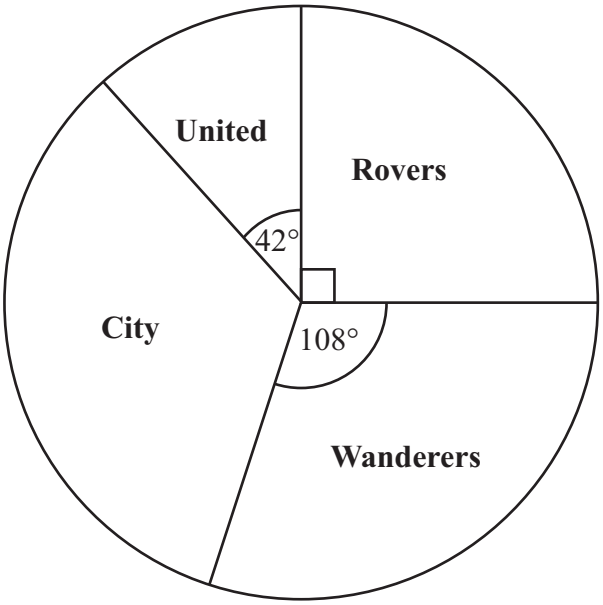
..... °C

(2)

(Total for Question 5 is 5 marks)

6 Alex asked some people to name their favourite football team.

The pie chart shows his results.



(a) What fraction of the people named Rovers as their favourite team?

.....

(1)

20 people named City as their favourite football team.

(b) How many people named Rovers as their favourite team?

.....

(4)

(Total for Question 6 is 5 marks)

7 Here is a list of some TV programmes for one day.

13 30	News
13 45	Doctors
14 10	Escape to the country
15 05	CBeebies
15 15	Gigglebiz
15 35	Jakers
15 55	Shaun the sheep
16 05	Dani's house

Caroline wants to record CBeebies and Jakers onto a DVD.

How many minutes of recording time does she need?

..... minutes

(Total for Question 7 is 2 marks)

8 The two-way table shows some information about how some students travelled to school yesterday.

	Walk	**Bus**	**Cycle**	**Total**
Boys		4	4	13
Girls	2	6	3	11
Total	7	10	7	24

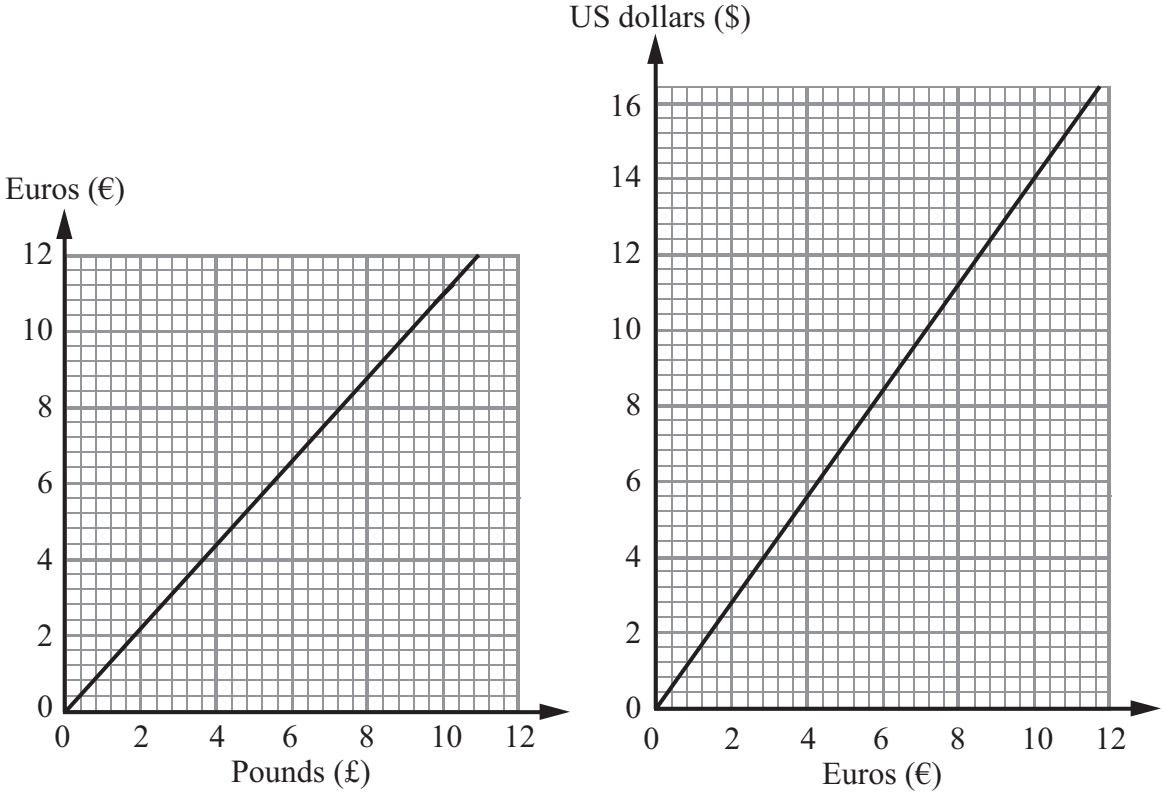
One of these students is picked at random.

Work out the probability that this student will be a boy who walked to school yesterday.

.....

(Total for Question 8 is 3 marks)

9 These graphs can be used to convert between pounds (£), Euros (€) and US dollars ($).



(a) Convert £6 to Euros (€).

€ .....

(1)

(b) Convert $5 to Euros (€).

€ .....

(1)

On the internet, Amir sees a pair of trainers.
The trainers cost $65

(c) Work out the cost of the trainers in pounds (£).

£ .....

(4)

(Total for Question 9 is 6 marks)

10 Stuart is organising a trip to a theme park.

This table shows the age of each person going on the trip.

Name	Age (years)
Stuart	47
Helen	43
Samantha	18
Georgina	15
Melissa	11
Alfie	4
Finlay	1

This table shows the costs of the tickets to the theme park.

Ticket	Cost (£)
Adult (16 to 59 years)	£14
Child (4 to 15 years)	£10
Infant (0 to 3 years)	free
Group of 4 people (2 Adults + 2 children, or 1 Adult + 3 children)	£43
Senior Citizen (60+ years)	£12

Work out the cheapest total cost of the tickets.
You must show all of your working.

£ .....

(Total for Question 10 is 5 marks)

11 There are 25 students in a class.
12 of the students are girls.

Here are the heights, in cm, of the 12 girls.

160 173 148 154 152 164 179 164 162 174 168 170

(a) Show this information in an ordered stem and leaf diagram.

14	
15	
16	
17	

(3)

There are 13 boys in the class.

Here are the heights, in cm, of the 13 boys.

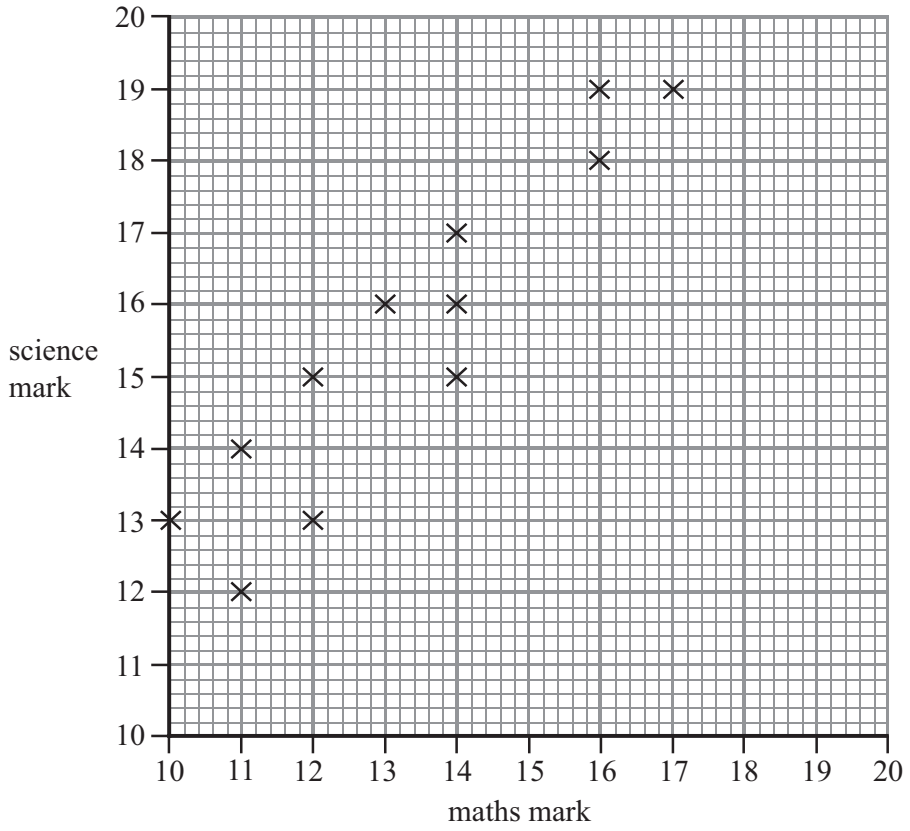
157 159 162 166 168 169 170 173 174 176 176 181 184

***** (b) Compare the heights of the boys with the heights of the girls.

(3)

(Total for Question 11 is 6 marks)

12 Mr Kent's students did a maths test and a science test.
The scatter graph shows the marks of 12 of these students.



The table shows the marks of two more students.

Name	maths	science
Masood	12	14
Nimer	17	20

(a) Show this information on the scatter graph.

(1)

(b) What type of correlation does this scatter graph show?

.....

(1)

David did the maths test.
He was absent for the science test.

David's mark in the maths test was 15

(c) Estimate a science mark for David.

.....

(2)

(Total for Question 12 is 4 marks)

13 Denzil has a 4-sided spinner.
The sides of the spinner are numbered 1, 2, 3 and 4
The spinner is biased.

The table shows each of the probabilities that the spinner will land on 1, on 3 and on 4
The probability that the spinner will land on 3 is x.

Number	1	2	3	4
Probability	0.3		x	0.1

(a) Find an expression, in terms of x, for the probability that the spinner will land on 2
Give your answer in its simplest form.

.....

(2)

Denzil spins the spinner 300 times.

(b) Write down an expression, in terms of x, for the number of times the spinner is likely to land on 3

.....

(1)

(Total for Question 13 is 3 marks)

14 Helen carries out a survey on healthy eating.

She uses these two questions in a questionnaire.

question 1 What is your age?

☐ under 20 ☐ 20 to 40 ☐ 40 to 60 ☐ over 60

question 2 You should eat fruit every day. You do agree, don't you?

☐ Yes ☐ No ☐ Don't know

Write down **one** thing wrong with each of these questions.

question 1

.....

.....

question 2

.....

.....

(Total for Question 14 is 2 marks)

TOTAL FOR PAPER IS 60 MARKS