1. As part of a nature study, 30 frogs found near a pond were weighed.
Their weights (to the nearest gram) are recorded below.

112	140	87	155	117	148	136	103	141	93
147	172	129	148	96	102	161	145	106	146
111	122	148	88	119	170	83	133	139	97

Using **equal** class intervals, complete the following table.

Weight (g)	75 to 99	100 to 124	..... to	150 to 174
Tally	𝍸 /			
Frequency	6			

[4]

2.

Forty pupils are asked to choose between the television channels BBC1 (shown as 1), BBC2 (2), ITV (3) or Sky (4).
The following table shows their results.

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

(a) Complete the frequency table below.

Channel	Tally	Frequency
BBC1 (1)		
BBC2 (2)		
ITV (3)		
SKY (4)		

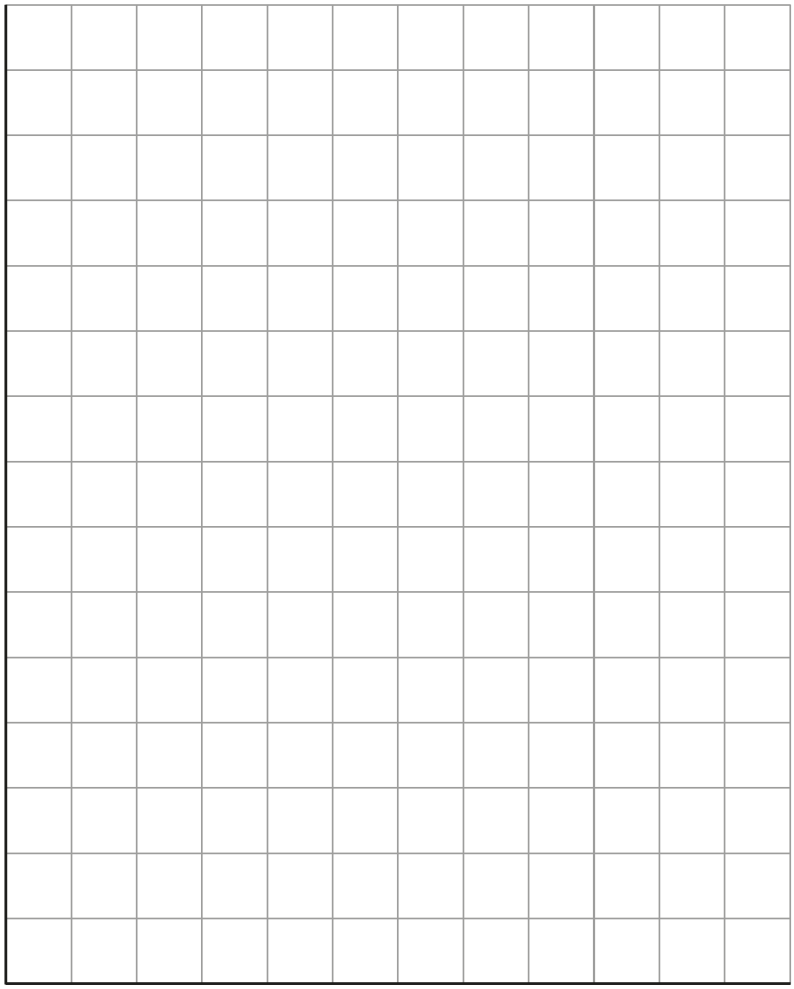
[2]

(b) Write down the mode. .....

[1]

(c) Using the squared paper on the next page, draw a suitable bar chart for the data given in the table.

[4]



3. Fifty people who regularly visit the cinema were asked which of four types of film they preferred.

The four types of film were Comedy (C), Adventure (A), Science Fiction (SF) and Romantic (R).

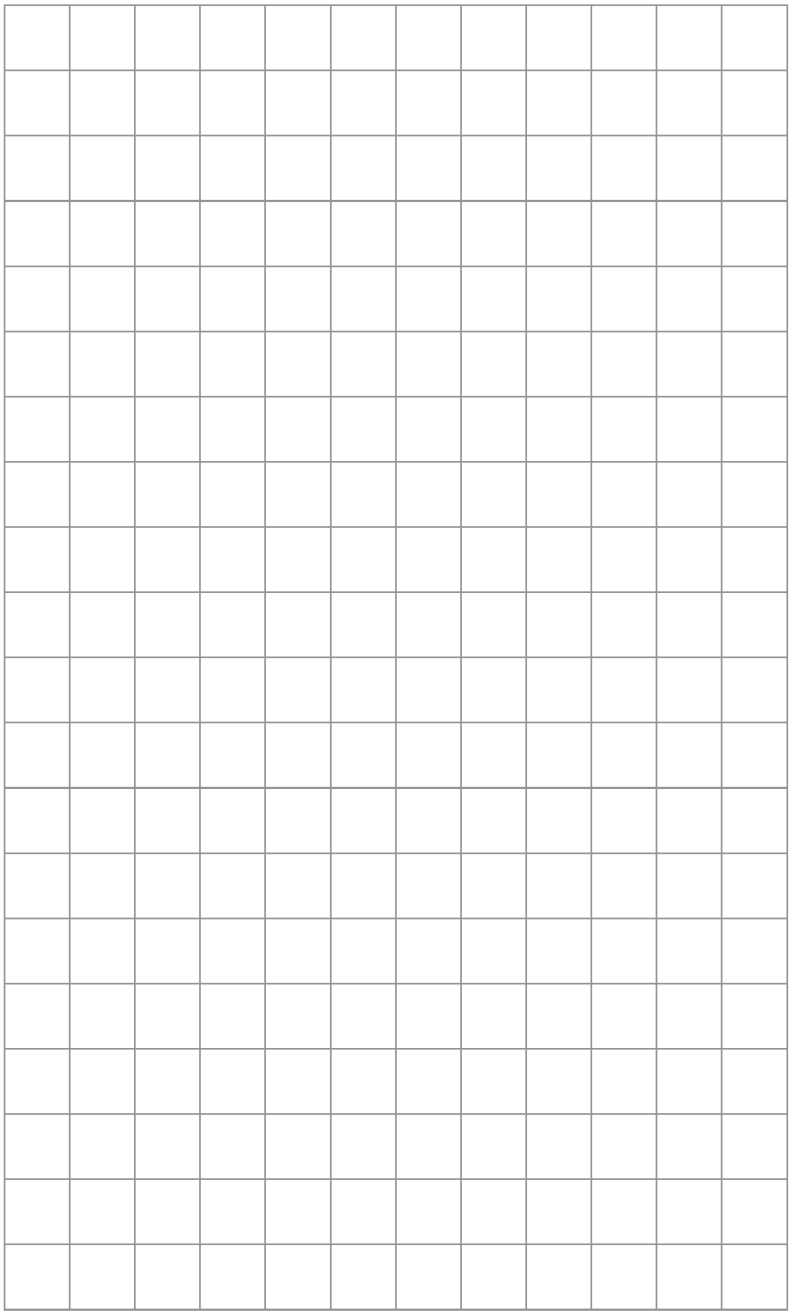
The answers given are recorded on the grid below.

A	R	C	SF	R	C	C	SF	A	C
SF	SF	R	C	R	C	SF	C	SF	R
R	C	C	SF	C	R	R	C	C	SF
C	A	C	R	SF	R	A	A	R	C
A	R	A	C	A	C	A	A	C	R

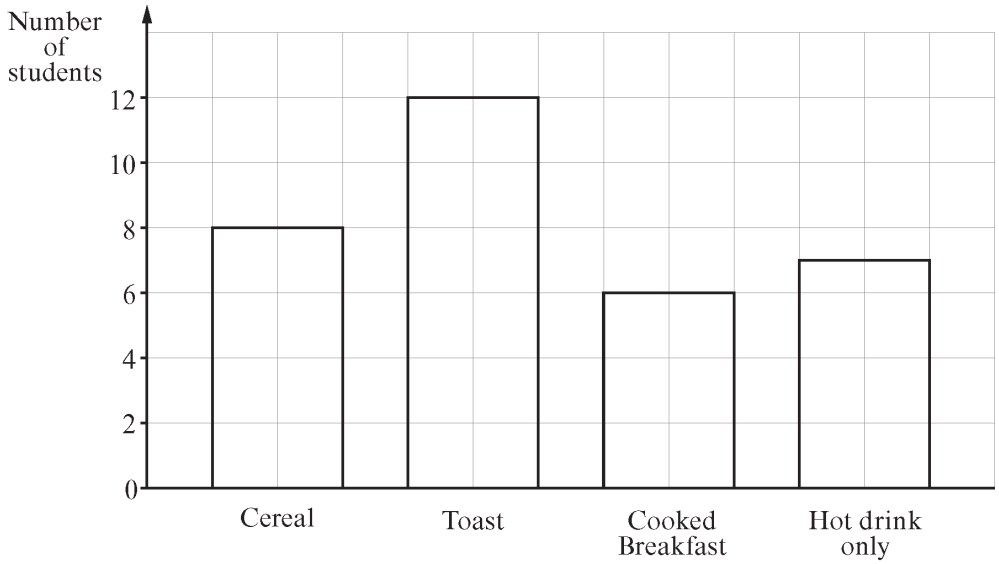
(a) Complete the frequency table below. [2]

Type of film	Tally	Frequency
Comedy (C)		
Adventure (A)		
Science Fiction (SF)		
Romantic (R)		

(b) Draw a bar chart to display the results. [4]



4. The bar chart shows the breakfast choices of a group of students the morning after their last examination. Each student had only one of the choices for breakfast.



(a) How many students ate a cooked breakfast?

.....

[1]

(b) How many students were there altogether?

.....

.....

[2]

(c) The students want to display this information as a pictogram.
In the space below, draw a pictogram to represent the data given in the bar chart.

Use ⊕ to represent 4 students.

[3]

5.

(a) The table shows the number of crates of oranges sold by a wholesaler in each of four weeks.

Week number	1	2	3	4
Number of crates	120	220	170	110

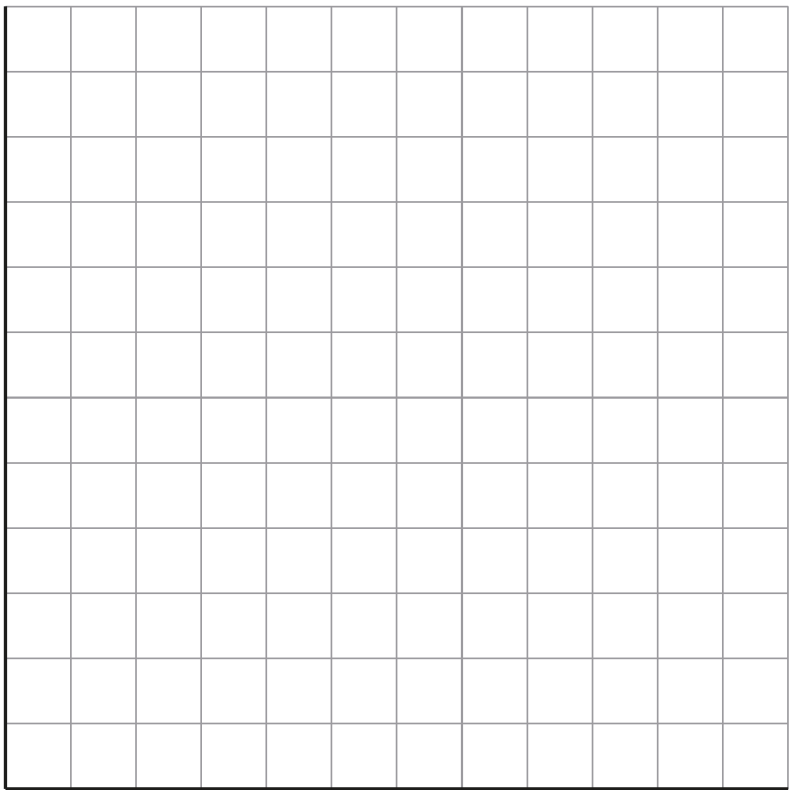
Draw a pictogram to represent the above information, using  to represent 40 crates.

Week 1	
Week 2	
Week 3	
Week 4	

[4]

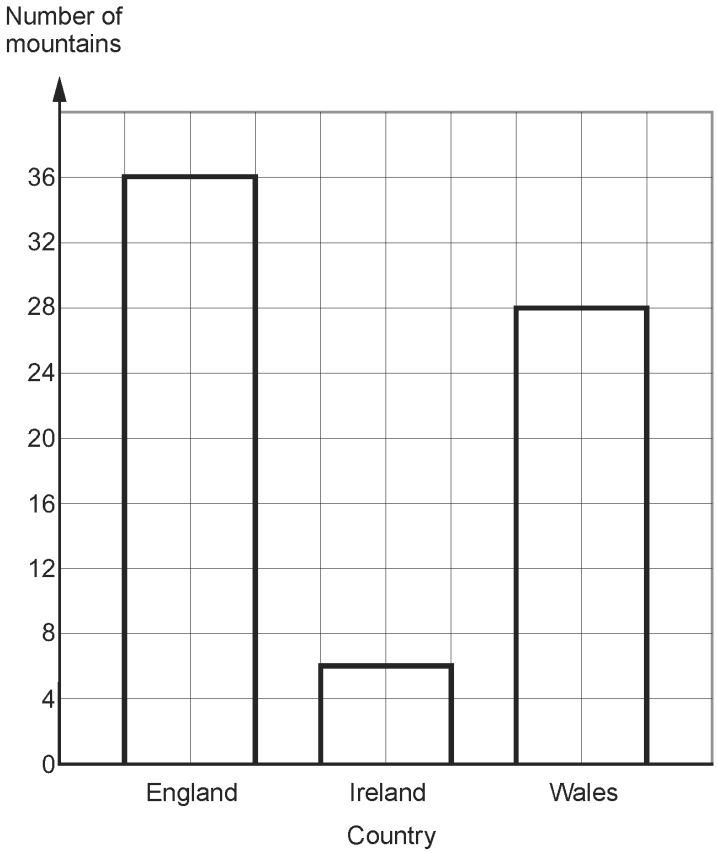
(b) On the squared paper on the following page draw a bar graph to represent the data given above.

[4]



6.

The bar chart shown below was drawn using information found on an internet web page.
It shows the number of mountains in each of the three countries of England, Ireland and Wales, whose heights are in the range 800 metres to 1000 metres.



(a) How many mountains are there in Wales whose heights are in the range 800 m to 1000 m? [1]

.....

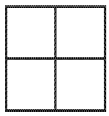
(b) How many mountains are there altogether in the three countries whose heights are in the range 800 m to 1000 m? [1]

.....

.....

(c) There are 280 mountains in Scotland whose heights are in the range 800 m to 1000 m.

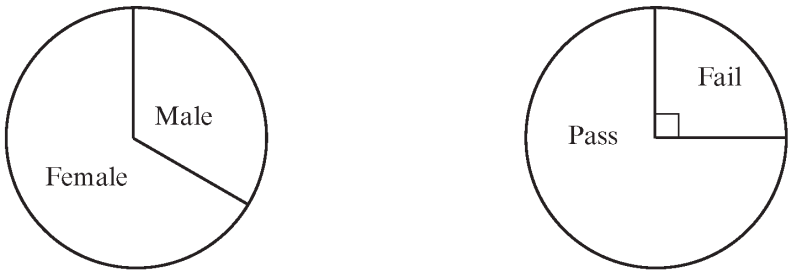
In the box below, draw a pictogram which compares the data for Scotland with the **total for the other three countries**.

Use  to represent 40 mountains. [2]

Scotland	
Total for England, Ireland and Wales	

7.

(a) The pie charts below give information about a group of students and their results in an end of year examination.



(i) What does the first pie chart tell you about the group?

.....

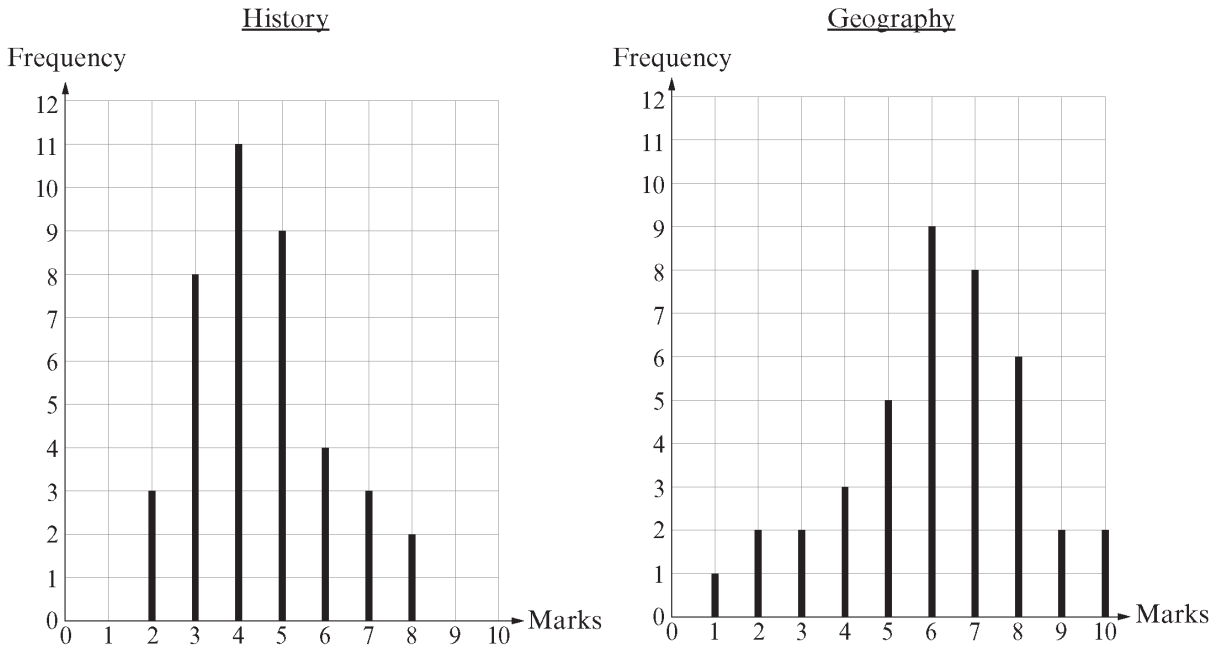
[1]

(ii) What percentage of the group failed the examination?

.....

[1]

(b) The diagrams below show how a group of 40 pupils performed in their History test and in their Geography test.



Compare the ranges of marks gained in the two tests.

.....

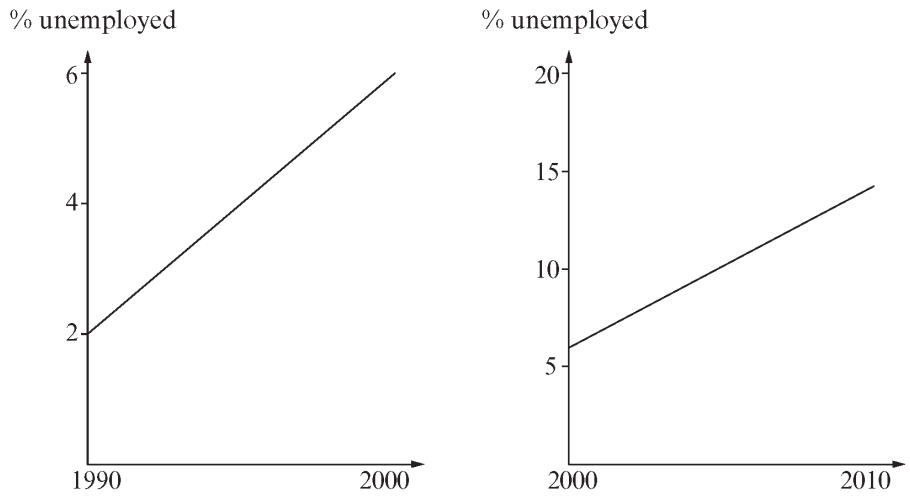
.....

.....

[2]

(c) A newspaper printed the diagrams shown below with the headline

'Changes in unemployment over two ten-year periods'



In what way could the information shown in the diagrams be misunderstood?

.....

.....

What is the reason for this?

.....

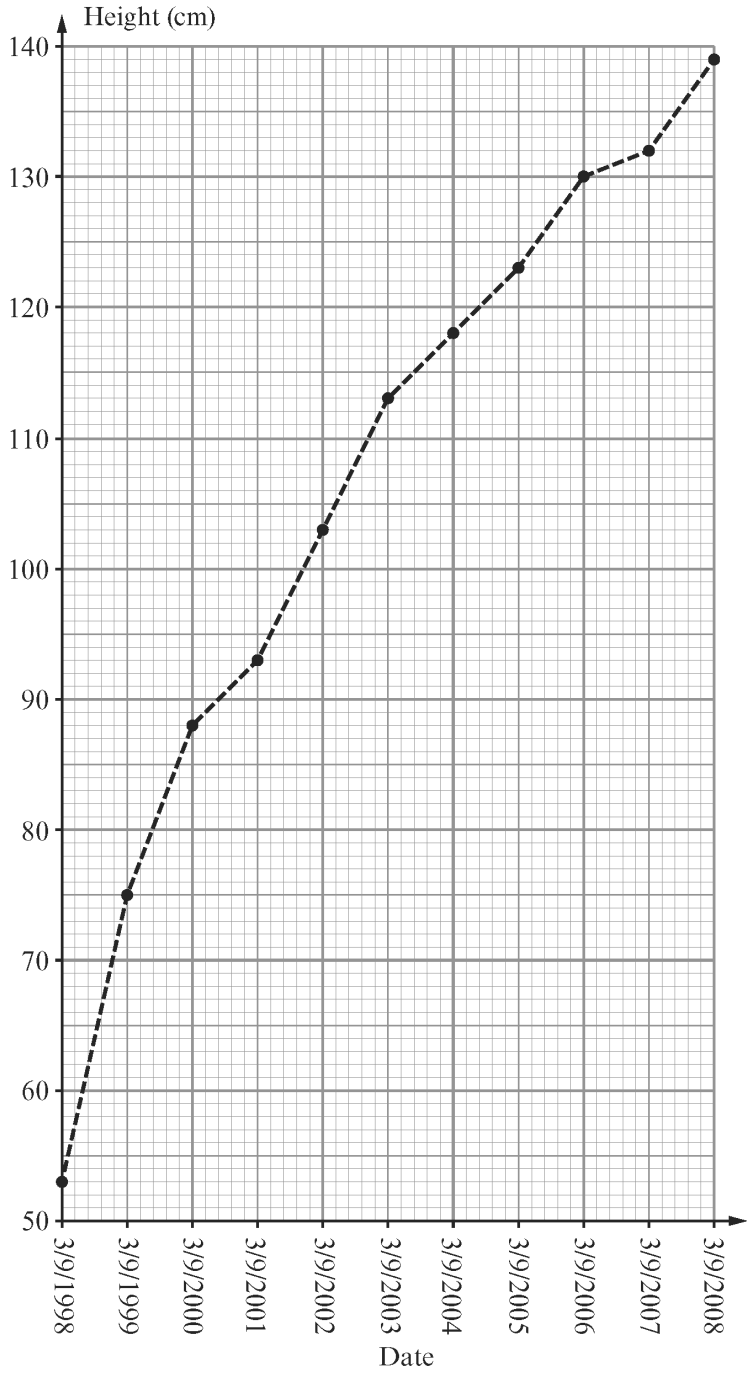
.....

[2]

8.

(a) Kate's parents measured her height on each of her birthdays until she was ten years old. Starting with Kate's recorded height on the day she was born, her parents drew a graph to show this information.

The graph they drew is shown below.



Use the graph to answer the following.

(i) What was Kate's recorded height when she was born?

..... cm

[1]

(ii) Between which two birthday dates did Kate grow the least?

Between 3/9/..... and 3/9/.....

[1]

(iii) How tall was Kate on the day she was 4 years old?

..... cm

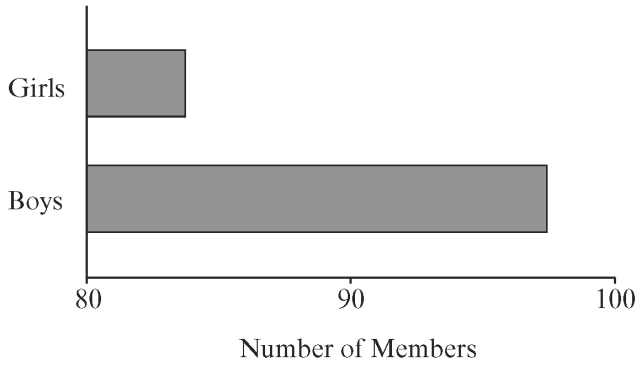
[1]

(iv) What will Kate's age be, in years, on 1st January 2015?

..... years old

[1]

(b) The following diagram is intended to show the number of girls and the number of boys who are members of a youth club.



In what way could the information shown in the diagram be misunderstood?

.....

.....

.....

What is the reason for this?

.....

.....

[2]

9. The lengths, in cm, of 8 pieces of wood are:

56 45 110 77 87 61 74 36

(a) Find the median of their lengths. [2]

.....

.....

.....

.....

.....

(b) Find the mean of their lengths. [3]

.....

.....

.....

.....

(c) Find the range of their lengths. [1]

.....

.....

.....

.....

10. The populations of some villages were:

419 510 122 162 74 19 206 272

(a) Find the range of these populations.

.....

.....

[1]

(b) Find the mean of these populations.

.....

.....

.....

.....

[3]

(c) Find the median of these populations.

.....

.....

.....

.....

[2]

11.

The ages of the members of a chess team were:

25 49 62 18 53 37 71

(a) Find the median of these ages.

.....

.....

.....

.....

[2]

(b) Find the mean of these ages.

.....

.....

.....

.....

[3]

(c) Find the range of these ages.

.....

.....

[1]

12.

A hockey team took part in a tournament.
A total of 25 players were used during the tournament.

A record was kept of the number of goals scored by each player.
A summary of this record is shown below.

Number of goals scored	Number of players
0	7
1	8
2	4
3	5
4	1

(a) What was the mean number of goals scored per player? [3]

.....

.....

.....

.....

.....

(b) Explain clearly why a player, chosen at random, would be more likely to have scored the modal number of goals rather than the mean number of goals per player. [1]

.....

.....

.....

13.

Two groups of six people took part in a quiz.

(a) The six members of group A gained the following scores.

52 29 78 56 24 37

(i) Calculate the mean score per person. [3]

.....

.....

.....

.....

(ii) What was the range of the scores gained? [1]

.....

(b) The scores gained by the six members of group B are summarised below.

Score	Number of people
22	2
25	2
26	1
28	1

(i) Without doing any further calculations, state which group had the larger mean score per person.
You must give a reason for your choice. [1]

.....

.....

(ii) Which group had the larger range of scores?
You must give a reason for your choice. [1]

.....

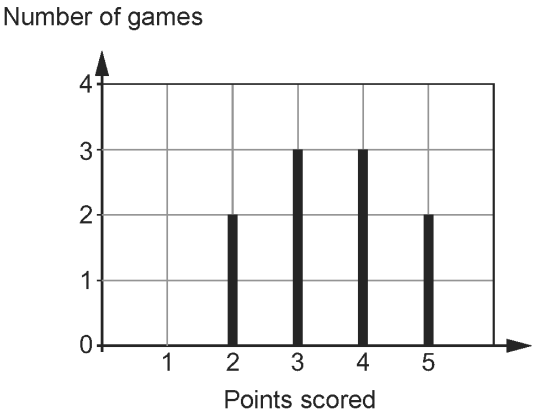
.....

14.

Catrin and Samir each played a game ten times.
In each game, between one and five points were scored.

Catrin had a mean score of 2·7 points for her ten games.
The range of the number of points she scored on her games was 4.

Samir recorded his scores as shown on the grid below.



(a) Who had the bigger mean score?
You **must** give a reason for your answer. [1]

.....

.....

.....

(b) Who had the bigger range of the number of points scored?
You **must** give a reason for your answer. [1]

.....

.....

.....

15.

(a) The table shows the minimum temperature recorded on 1st December in seven cities around the world.

City	Berlin	Calgary	Cardiff	Delhi	Milan	Moscow	New York
Temperature (°C)	0	–39	11	42	11	1	–5

(i) What is the difference in temperature between the warmest and coldest cities? [2]

.....

.....

(ii) What is the median temperature recorded? [2]

.....

.....

(b) The table shows the midday temperature readings that were recorded in Cardiff on the first day of each month.

Month	Jan.	Feb.	Mar.	Apr.	May	June	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
Temperature (°C)	1	4	2	7	11	16	17	21	19	10	7	11

(i) Find the mean and range of these temperature readings and complete the table below. [4]

.....

.....

.....

.....

.....

	Cardiff	Paris
Mean midday temperature (°C)		15·8
Range of midday temperatures (°C)		29

(ii) Midday temperature readings were also recorded on the first day of each month in Paris.

The mean was found to be 15·8°C and the range was 29°C.

Use the mean and range to compare the temperatures recorded in Cardiff and Paris. [2]

.....

.....

.....

.....

.....

.....

16.

The mean temperature at the summit of Snowdon was recorded for each month from November to March.
The results are summarised below.

Month	November	December	January	February	March
Mean Temperature (°C)	3	−5	−8	−2	7

(a) List the **months** in order, starting with the month with the lowest mean temperature, up to the month with the highest mean temperature. [1]

Lowest *Highest*

Month: ....

(b) How many of these months had a mean temperature below 0°C? [1]

.....

(c) What was the difference in temperature between the lowest and highest mean temperatures given in the table? [1]

.....

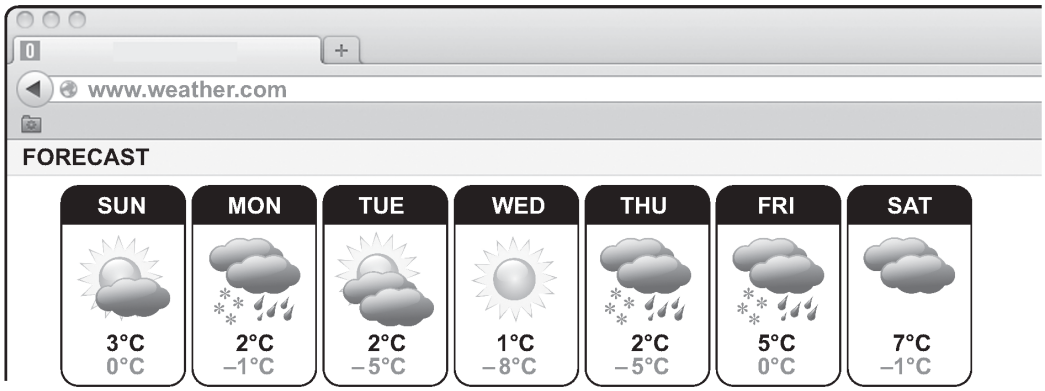
(d) In November, the mean temperature at the summit of Ben Nevis was 5°C lower than the mean temperature at the summit of Snowdon.
What was the mean temperature at the summit of Ben Nevis in November? [1]

.....

17.

Jessie went to Canada on a snowboarding holiday.

(a) A website shows the weather forecast for the highest and lowest daily temperatures for the week in Canada.



(i) What is the lowest temperature shown for the week? [1]

.....

(ii) What is the difference between the highest and lowest temperatures shown for the week? [1]

.....

.....

(b) (i) Before going on holiday, Jessie changed £800 into Canadian dollars ($).
The exchange rate was £1 = $1.59.
How many dollars did she receive? [2]

.....

.....

.....

.....

(ii) Whilst on holiday she paid $456 for a lift pass to go snowboarding.
Use the same exchange rate to calculate the value of the lift pass in pounds.
Give your answer to the nearest pound. [3]

.....

.....

.....

.....

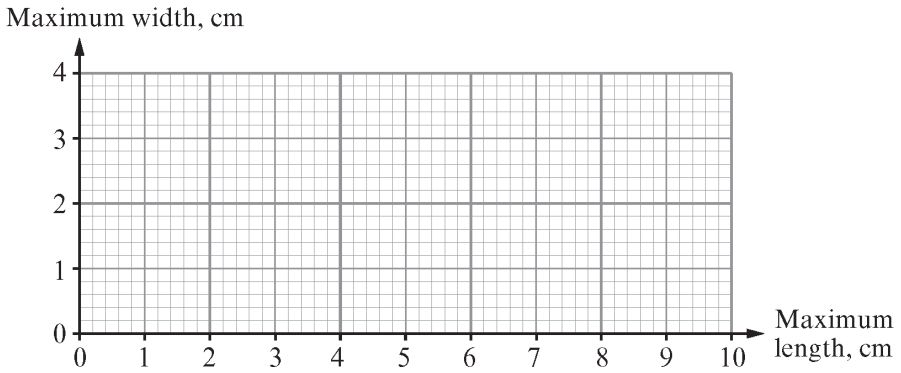
.....

18. The maximum lengths and maximum widths of a number of leaves from one tree were measured.

Maximum length, cm	6·8	7·4	3·2	8·2	9·4	7·6	4·2	2·8	8·4
Maximum width, cm	2·4	2·6	1·2	3·0	3·4	2·8	1·4	1·0	3·2

(a) Draw a scatter diagram to display these measurements.

[2]



(b) Draw, by eye, a line of best fit on your scatter diagram.

[1]

(c) State the type of correlation shown in your scatter diagram.

.....

[1]

(d) Another leaf from the same tree has a maximum length of 5 cm.
Use your line of best fit to estimate the maximum width of this leaf in cm.

..... cm

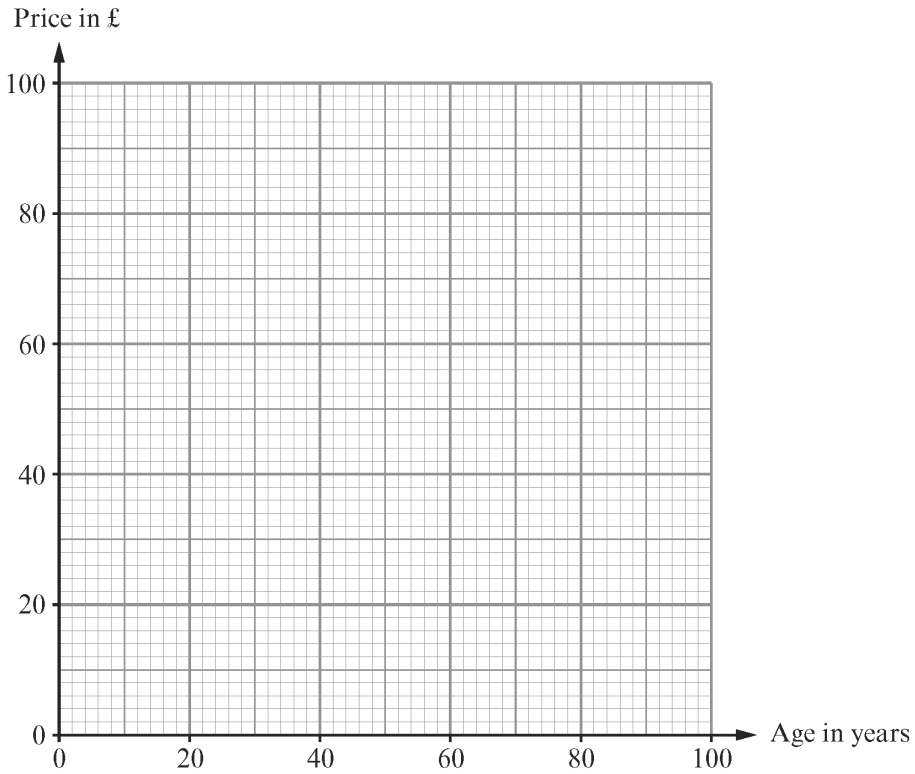
[1]

19. The age and price of each of 8 clocks in an antique shop are recorded in the table.

Age in years	12	40	70	50	46	80	62	32
Price in £	90	60	80	50	20	40	20	28

(a) Draw a scatter diagram to display these ages and prices.

[2]



(b) Write down the price of the oldest clock.

Price £ .....

[1]

(c) Does the scatter diagram indicate that there is a correlation between the age and price of the clocks? You must give a reason for your answer.

.....

.....

.....

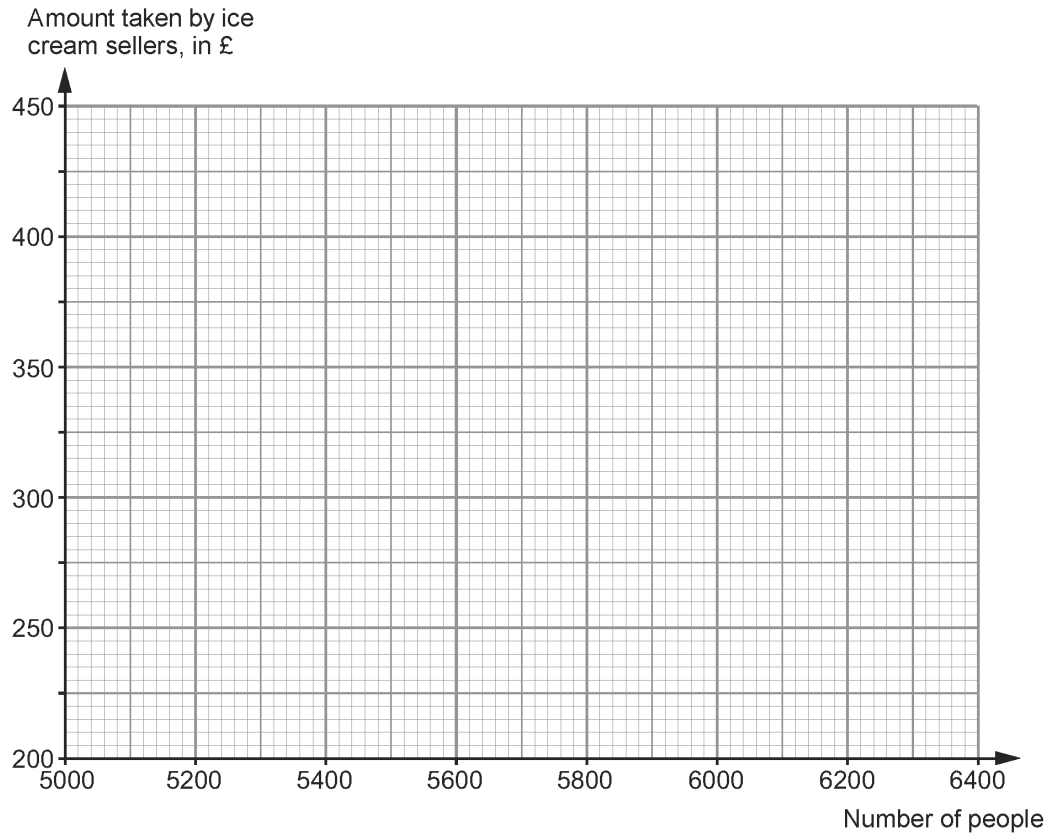
[1]

20.

A festival took place over 7 days in August.
Each day, the number of people at the festival and the amount of money taken by the ice cream sellers were recorded.
The table below shows the results.

Number of people	5500	6000	5600	5200	5800	6400	6200
Amount taken by ice cream sellers, in £	280	400	280	210	320	420	410

(a) On the graph paper below, draw a scatter diagram of these results. [2]



(b) Write down the type of correlation that is shown by the scatter diagram. [1]

.....

(c) Draw, by eye, a line of best fit on your scatter diagram [1]

(d) Estimate the amount of money that may have been taken by ice cream sellers during one day had 6100 people attended the festival on that day. [1]

.....

(e) Explain why it is not possible to work out how much a typical ice cream costs at the festival. [1]

.....

.....

.....

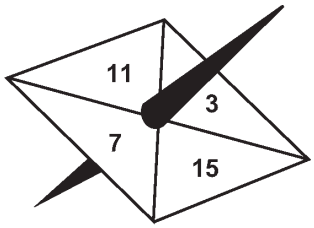
.....

21.

Choose the best word from those given below to describe the chance of each of the following events occurring.

impossible **unlikely** **even chance** **likely** **certain**

(a) You get an odd number when the following spinner is spun once. [1]



.....

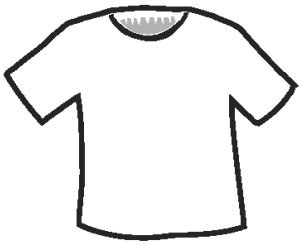
(b) You win a raffle when 200 tickets are sold and you have bought one. [1]

.....

(c) You get an even number when a fair dice is rolled once. [1]

.....

22. *(a)*



Jac had 14 T-shirts in his cupboard.
10 of them were white and the rest were blue.
One morning, Jac chose a T-shirt at random from his cupboard.
Circle the best expression from those given below to describe the chance that Jac chose a blue T-shirt. [1]

impossible **unlikely** **an even chance** **likely** **certain**

(b)

Jalal had 16 pairs of socks in a drawer.
One day, he chose a pair at random from the drawer.
There is an even chance that he chose a black pair.
How many pairs of black socks were there in the drawer? [1]

.....

(c) (i) Fiona had a bag of 25 counters.
In the bag, there were 10 red counters, 6 yellow counters and the rest were green.
Fiona chose a counter at random from her bag.
What is the probability that she chose a green counter? [2]

.....

.....

(ii) Hari had a different bag of counters.
There were 36 counters in his bag. Hari chose a counter at random from his bag.

The probability that Hari chose a yellow counter is $\frac{5}{9}$.

How many yellow counters were in Hari's bag? [2]

.....

.....

.....

23.

Fill in the blanks to match each event to its chance of happening.
The first one is done for you. [4]

Obtaining the number **2** when a fair dice numbered 1 to 6 is rolled once.	**Unlikely**
Obtaining the number ..... when a fair dice numbered 1 to 6 is rolled once.	**Impossible**
Obtaining ..... when a fair dice numbered 1 to 6 is rolled once.	**Even Chance**
Obtaining ..... when a fair coin is thrown once.	**Even Chance**
Choosing a ..... coloured ball out of a bag containing only yellow balls.	**Certain**

24.

Choose the best expression from those given below to complete the following sentences. [4]

impossible **unlikely** **an even chance** **likely** **certain**

(a) It is ..... that the sun will set tonight.

(b) It is ..... that I get a tail when a fair coin is tossed.

(c) It is ..... that I score a total of 1 when two dice are thrown.

(d) I buy one ticket in a raffle in which a total of 1000 tickets are sold.
It is ..... that I will win the top prize.

25.

(a) A bag contains only red, yellow, green and blue coloured sweets.
The table below shows the probability of choosing each colour of sweet, when one sweet is chosen at random from the bag.

Colour	Red	Yellow	Green	Blue
Probability	0·2	0·15	0·25	

(i) What is the probability of choosing a blue sweet? [2]

.....

.....

(ii) Which **two** colours are the least likely to be chosen? [1]

.....

(b) For a different bag of sweets, the probability of choosing a purple sweet is 0·7.
What is the probability of **not** choosing a purple sweet? [1]

.....

26.

Sanej throws two fair dice.
He scores a double one.

Calculate the probability of **not** scoring a double one when two fair dice are thrown. [2]

.....

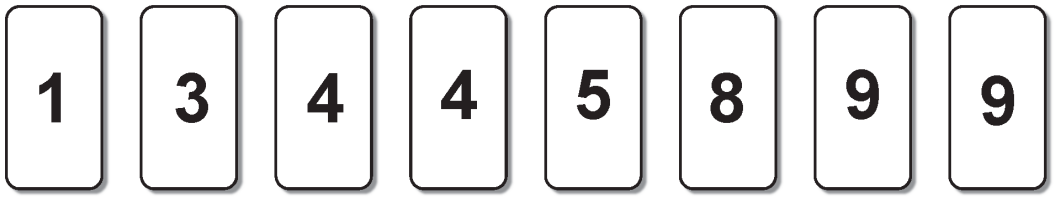
.....

.....

.....

.....

27.



One card is chosen at random from the cards shown above.

Write down the probability of selecting each of the following

(a) the number 5, [1]

.....

(b) a number less than 4, [1]

.....

(c) a multiple of 2, [1]

.....

(d) a square number, [1]

.....

(e) a prime number, [1]

.....

(f) the square root of 16. [1]

.....

28.

There are four balls numbered 2, 2, 3 and 4 respectively in machine A and four balls numbered 3, 4, 5 and 6 respectively in machine B.
In a game, both machines A and B select one ball at random.
The score for the game is the 2-digit number whose units digit is the number from machine A and whose tens digit is the number from machine B.

For example, if the number on the ball from machine A is 4 and the number on the ball from machine B is 3, the score is 34.

(a) Complete the following table to show all the possible scores. [2]

Machine B \ Machine A	2	2	3	4
6	62	.....	63	.....
5	52	.....	.....	54
4	42	42	.....	44
3	32	32	33	.....

A player wins a prize by getting a score of 42 or less.

A player wins a prize by getting a score of 42 or less.

(b) (i) Matthew plays the game once. What is the probability that he wins a prize? [2]

.....

.....

(ii) One day 400 people play this game once. Approximately how many would you expect to win a prize? [2]

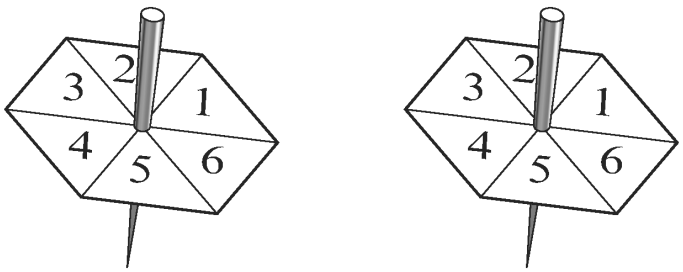
.....

.....

.....

29.

The following two spinners are spun.



Kevin adds together the two numbers obtained to get a total score.
The table below shows some of the possible total scores.

Second spinner							
	6	7	.....	.....	.....	.....	.....
	5	6	.....	.....	.....	.....	.....
	4	5	6	.....	.....	.....	.....
	3	4	5	.....	.....	.....	.....
	2	3	4	5	6	7	.....
	1	2	3	4	5	6	7
		1	2	3	4	5	6

First spinner

(a) Complete the table to show **all** the possible total scores.

[2]

(b) What is the probability of getting a total score of 9?

.....

.....

[2]

(c) If Kevin spins the two spinners 180 times, how many times would he expect to get a total score of 9?

.....

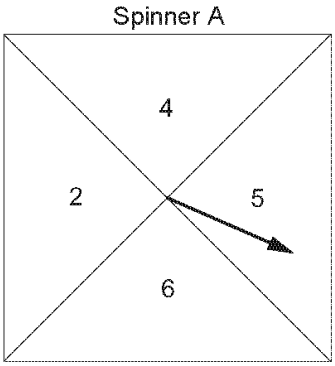
.....

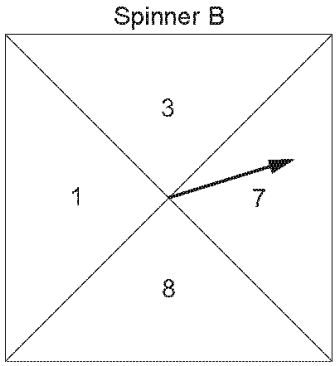
.....

[2]

30.

Amira is playing a game with two fair spinners.
The faces of the spinners are shown below.





The numbers on Spinner A are 2, 4, 5, 6.

The numbers on Spinner B are 1, 3, 7, 8.

Amira spins Spinner A and then she spins Spinner B.
She works out her score by **multiplying the number on Spinner A by 3 and adding the answer to the number on Spinner B**.
For example, if the number on Spinner A is 5 and the number on Spinner B is 7, then Amira's score would be $(3 \times 5) + 7 = 22$.

(a) Complete the table below to show all Amira's possible scores. [2]

Spinner A \ Spinner B	1	3	7	8
2	7		13	
4		15		20
5	16		22	
6		21		26

(b) Find the probability that Amira's score is less than 15. [2]

.....

.....

31.

A survey was carried out to find whether more women than men visit the cinema.

The following two questions were asked.

Q1. What is your age?

Q2. How often do you visit the cinema?

Never	*1-2 times*	*3-5 times*	*5 or more times*
☐	☐	☐	☐

(a) For each question give **one** reason why it is not suitable.

Q1 .....

.....

Q2 .....

.....

[2]

(b) The survey was carried out by questioning people leaving a cinema one Wednesday afternoon.
Give **one** criticism on how the survey was carried out.

.....

.....

[1]

32. A survey is to be carried out to find the popularity of buying books with various age groups of the general population.

The survey is carried out by asking people questions as they come out of a book shop.
Two questions from the survey questionnaire are shown below.

1. How old are you?
   Put a tick in the box.

   under 20 ☐
   20 to 30 ☐
   30 to 40 ☐
   older than 40 ☐

2. Do you buy books?
   Put a tick in the box.

   Yes ☐
   No ☐

(a) Explain why this may be a biased survey. [1]

.....

.....

.....

(b) State a criticism about the design of question 1 in the survey. [1]

.....

.....

.....

(c) Write a question with a selection of answer boxes, to find out how much people are prepared to pay for a paperback book. [2]

.....

.....

.....

.....

.....

.....

.....

33.

In a Park and Ride scheme, people leave their cars on the outskirts of a town and travel into town by bus.
A survey was carried out to decide if a town should start a Park and Ride scheme.

Shoppers in the town were asked the following four questions.

Q1. Did you travel into town by car?

YES ☐ *NO* ☐

Q2. What type of car do you have?

.....

Q3. Was it easy to find a place in town to park your car?

YES ☐ *NO* ☐

Q4. How many times would you use a Park and Ride, if available?

1-5 times ☐ *6-10 times* ☐ *more than 10 times* ☐ *less than 20 times* ☐

(a) Which one of the first **three** questions would you remove?
You must give a reason. [1]

.....

.....

(b) Give **two** reasons why question 4 is not suitable. [2]

Reason 1 .....

.....

.....

Reason 2 .....

.....

.....

Marking Scheme

1.

4. (75 – 99) (100 – 124) **125 – 149** (150 – 174) Using a tally convention. (6) 8 12 4	✓ ✓ ✓ ✓	B1 B1 B2	 Need not be accurate. B2 for all three correct. B1 for 1 or 2 correct.

2.

2. (a) 8 6 12 14	B2	B1 for any two/three correct frequencies If frequencies score 0, then give B1 for all 4 correct tallies.
2. (b) 4 OR Sky	B1	F.T. their table of frequencies B0 for 14, but B1 for 4 (or Sky) and 14
2. (c) Both axes labelled, e.g. frequency along one axis and BBC1 (1), BBC2 (2), ITV (3), SKY (4) along other axis anywhere within the base (inc.) of the corres. bar. and uniform scale for the frequency axis starting at 0 and labelled 'frequency' OR 'Number'.	B2	B1 if no scale, but allow one square to represent 1 OR B1 if not labelled as 'frequency' or similar. If frequency scale starts with 1 at the top of the first square the starting at 0 will be implied for this axis.
Four bars at correct heights (bars must be of equal width)	B2	F.T. their table of frequencies B1 for any 2 or 3 correct bars on F.T. Bars must have same width

3. There is no marking scheme available for this question

4.

2. (a) 6 (b) 8 + 12 + 6 + 7 33 (c) For correct pictogram drawn with labels Cereal Toast Cooked breakfast Hot drink only	B1 M1 A1 B3 6	For adding frequencies Award B2 for 3 correct, B1 for 2 correct Penalise -1 for no labels

5.

6.

4(a) 28 (b) 70 (c) Scotland ⊞ ⊞ ⊞ ⊞ ⊞ ⊞ ⊞ England Ireland and Wales ⊞ ◱ or equivalent.	B1 B1 B1 B1 4	 7 symbols. Ignore poor drawings. 1 full symbol plus ¾ of the symbol. F.T. their answer to (b), provided it is of equal difficulty, correct to the nearest 10. Penalise contiguous or disjointed symbol −1, once only.

7.

7(a) (i) 'More girls than boys' or equivalent.		B1	Accept 'Twice as many girls as boys'. Do not accept 'more females passed'.
7(a) (ii) 25(%)		B1	¼ is B0.
7(b) Indication that the range of the marks in History is 6 and in Geography is 9		B2	Allow 'range in Geography is greater' or equivalent. B1 for ranges of 6 and 9 only, with no indication of which is which. OR B1 for 'History 2 to 8 and Geography 1 to 10' OR B1 for one correct range clearly attributed.
7(c) It might appear that the % increase is much greater for one period than the other because of the different scale used.		B2	B1 for comment on misleading visual appearance. B1 for comment on different scale used. Credit similar statements once only. *(Mark comments wherever they appear. Ignore other irrelevant comments.)*

8.

10. (a) (i) 53 (cm)	B1	
(ii) (3/9/) 2006 and (3/9/) 2007	B1	
(iii) 103 (cm)	B1	
(iv) 16	B1	Ignore fractions of a year e.g. 16yrs 4m or 16·3yrs
(b) Comment on misleading visual appearance. e.g. 'looks as if many more boys'.	B1	Do not accept 'there are more boys'.
Comment on 'Number' scale not starting at zero. e.g. 'only starts at 80'.	B1	Accept the (distinct) comments in either order.
	6	

9.

2015 November Paper 2 (Calculator allowed) Foundation Tier	Marks	FINAL MARK SCHEME Comments
6. (a) 36 45 56 61 74 77 87 110	M1	For identifying the correct TWO middle numbers OR for arranging the 8 numbers in ascending or descending order.
Median = (135/2) = 67.5 (cm)	A1	C.A.O. Unsupported 67.5 gets M1, A1.
(b) Sum of the numbers (546)	M1	For attempt to add all the numbers
Sum/8	M1	For dividing a number in the range 436 to 656 by 8.
Mean = 68.25 (cm) **I.S.W.**	A1	C.A.O.
(c) (Range =) 74 (cm)	B1	
	6	

10.

7. (a) 491	B1	
7. (b) Sum of the numbers (1784)	M1	For attempt to add the numbers
Sum/8	M1	For a division by 8 of a number in the range 1200 − 2300
223	A1	C.A.O.
7. (c) (19 74 122) 162 206 (272 419 510)	M1	For ordering the numbers in descending or ascending order.
184	A1	OR showing 162 and 206 only.

11.

6. (a) 18 25 37 49 53 62 71	M1	**For ordering all 7 numbers**
49	A1	
6. (b) Sum of the numbers (315)	M1	For attempt to add the numbers
Sum/7	m1	For a division by 7 of a number in the range 240−390
45	A1	C.A.O. (25 + 49 + 62 + 18 + 53 + 37 + 71)/7 gets M1,m1
6. (c) 53	B1	

12.

November 2015 UNIT 1 Foundation	Mark	FINAL MARK SCHEME Comments
13(a) (Mean =) (7×0) + 8×1 + 4×2 + 5×3 + 1× 4 (=35)	M1	M1 for a clear attempt at finding Σfx. Implied by an answer of 42 (7×0 =7 used!)
'their total' ÷ 25 = 1·4	m1 A1	M1mo for 8 + 8 + 15 + 4 ÷ 25 (= 31·16) C.A.O.
(b) A valid and relevant statement e.g. 'The mean number of goals is not a whole number' 'The modal number is the most frequent'	E1 4	The modal value 1 need not be stated but if incorrectly stated (e.g. as 2 or 8) then E0.

13.

June 2015 UNIT 1 Foundation	✓	Mark	Comments
6(a)(i) 52 + 29 + 78 + 56 + 24 + 37 (= 276)		M1	For an attempt to add the scores. Allow if one score 'missed'.
276 ÷ 6 = 46		m1 A1	F.T. 'their total'. C.A.O. Mark final answer.
6(a)(ii) (Range =) 54		B1	
6(b)(i) Group A AND Reference to higher scores in group A		B1	B0 if full calculation (2×22 + 2×25 + 1×26 + 1×28) / 6 is seen
6(b)(ii) Group A AND Reference to group B's scores only between 22 and 28.		B1	Allow 'Group A, they are more spread out'. Accept 'B's range is (only) 6

14.

12.(a) Samir AND a valid reason given.	B1	e.g. 'Most of his points were 3 or over', 'Samir had a mean of 3·5'. B0 if an incorrect mean given for Samir.
(b) Catrin AND a valid reason given.	B1 2	e.g. 'Samir's range was (only) 3' also allow 'Samir's range was 2 to 5 (or 5 to 2)'. B0 if an incorrect range given for Samir.

15.

8. (a) (i) identify warmest and coldest (42°C and −39°C) and intention to subtract. 81 (°C)		M1 A1	M0 A0 for 42−39=3 M1A0 for −39−42=-81 M1A0 for 42− −39=3
8. (a) (ii) order data (−39, −5, 0, 1, 11, 11, 42) (median) 1 (°C)		M1 A1 4	Allow M1 for data ordered with one omitted. CAO
8. **8b(i) and 8b(ii) ribbon marked** **8b(i) to be viewed with table below** (b) (i) Sum of numbers (126) Sum/12 (mean=) 10·5 (°C) (range = 21 – 1=) 20 (ii) A correct statement, in context, involving meanand range with interpretation.	 ✓ ✓ ✓ ✓ 	 M1 m1 A1 B1 B2 6	 For an attempt to add the numbers For a division by 12. FT one slip. (1+4+2+7+11+16+17+21+19+10+7+11)/12 gets M1 m1 CAO B1 for a numerical comparison of mean and range with correct interpretation of one of mean or range.

16.

1(a) January December February November March	B1	Accept any unambiguous indication of correct order including −8, −5, −2, 3, 7.
(b) 3	B1	Do not accept a list of months.
(c) 15(°C)	B1	Allow −15(°C)
(d) −2(°C)	B1	
	4	

17.

8. (a) (i) -8(˚C)	B1	Do not accept Wednesday
(ii) 15(˚C)	B1	Accept -15(˚C). *Watch for answer to greatest daily range of 9(˚C)*
(b) (i) 800 × 1.59	M1	
($) 1272 (dollars)	A1	
(ii) 456 ÷ 1.59	M1	
= (£)287	A2	Award A1 for (£)286(.7924528)
	7	

18.

All parts (a) – (d) marked at the same time **Use Overlay**		
11. (a) All points correctly plotted	B2	Mark intention B1 for any 4 points correctly plotted
11. (b) Reasonable (straight) line of best fit	B1	In an appropriate direction, fit for purpose, with some points above and some points below the straight line. Intention to be 'straight', accept without a ruler Do not accept line drawn corner to corner
11. (c) Positive	B1	Do not accept descriptions
11. (d) Their maximum width read from their line of best fit for a maximum length of 5cm	B1	Accuracy of reading within 1 square small If no line of best fit then B0

19.

11.(a) All 8 points correctly plotted	B2	B1 for at least 6 points correctly plotted, OR all correctly plotted but joined dot-to-dot
(b) (£)40	B1	OR FT from their graph for their oldest clock
(c) Implies "no" with a reason (e.g. points scattered, or not in line, etc.)	E1	Accept statements saying it is 'not positive **and** not negative correlation'
	4	

20.

All parts (a) – (e) marked at the same time 15.(a) All points **plotted** correctly	B2	Intention: closer to the correct intersection than to any others B1 for indication of at least 3 correct points *Penalise joining point to point -1*
(b) Positive	B1	Do not accept descriptions
To be viewed with graph (c) Line of best fit with points above and below	B1	The line must be fit for purpose, it should not pass through the intersection of the axes *Ignore also joining point to point*
To be viewed with graph (d) Their estimate, from use of their line of best fit, or an answer in inclusive interval 390 ≤ 'their estimate' ≤ 410	B1	Accuracy to the nearest £10 FT for their incorrect line of best fit with accuracy to the nearest £10
(e) Explanation, that it doesn't tell you, e.g. 'only know how many attend, not how many spent money on ice cream', or 'don't know how many ice creams were sold'	E1	Ignore incorrect statements given with a correct response. Accept answers that state or imply, don't know: • how many ice cream sold, or • how many people bought ice cream Allow answers that state or imply, don't know: • different costs of ice cream (days or ice creams) e.g. accept 'different ice creams cost different amounts', 'don't know who bought what', 'sellers change prices on different days'

21.

4. (a) certain	B1	**(Welsh is sicr)**
4. (b) unlikely	B1	**(Welsh is annhebygol)**
4. (c) even chance	B1	Do not accept 'even' but B1 for 'evens'. **(Welsh is siawns deg)**

22.

2015 November Unit 2 (non calculator) Foundation Tier	Marks	FINAL MARK SCHEME Comments
3. (a) unlikely	B1	
(b) 8 (pairs)	B1	
(c) 9/25	B2	ISW B1 for a numerator of 9 in a fraction less than 1. B1 for a denominator of 25 in a fraction less than 1. NB Penalise –1 for use of words such as '9 out of 25', '9 in 25'. or '9:25'. When both fraction and wrong notation seen, DO NOT penalise wrong notation
(d) $5/9 \times 36$ 20	M1 A1 6	20/36 gets M1A0

23.

2. Number other than 1-6	B1	
Any three different numbers from 1 to 6	B1	Eg, Odd (numbers) OR Even (numbers) OR any other correct answer e.g. '1,2, or 3' or 'a prime number''.
Head OR Tail	B1	
Yellow	B1 4	

24.

2015 November Paper 1 (Non calculator) Foundation Tier		Marks	FINAL MARK SCHEME Comments
4. (a) certain	sicr	B1	
(b) an even chance	siawns deg	B1	
(c) impossible	amhosibl	B1	
(d) unlikely	annhebygol	B1 4	

25.

10 (a)(i) 1- (0.2 + 0.15 + 0.25) 0.4	M1 A1	Allow intention of brackets. *(1 – 0.42=)0.58 gets SC1* *If answer of 0.4 in table and contradicted in answer space then SC1*
(ii) Red and Yellow	B1	
(b) 0.3	B1 4	FT from their (a)(i) provided it is ≤ 0.2 and ≠0

26.

2015 November Paper 1 (Non calculator) Foundation Tier	Marks	FINAL MARK SCHEME Comments
14. $1 - \frac{1}{6} \times \frac{1}{6}$ or equivalent full method	M1	
35/36	A1	**Mark final answer**
H2	2	

27.

6. a) 1/8 b) 2/8 c) 3/8 d) 5/8 e) 2/8 f) 2/8	B1 B1 B1 B1 B1 B1 6	penalise once only for consistent use of incorrect denominator, provided in a fraction <1 penalise once only for incorrect notation throughout Ignore incorrect cancelling throughout *SC2 for all correct cards for parts c)-f)* *SC1 for correct cards in 2 or 3 parts from c)-f)*

28.

All parts (a) – (b) marked at the same time 13. (a) (62) **62** (63) **64** (52) **52** **53** (54) (42) (42) **43** (44) (32) (32) (33) **34**	B2	B1 for at least 3 correct entries
(b) (i) $\frac{6}{16}$ I.S.W.	B2	F.T. their table B1 for a numerator of 6 in a fraction less than 1. B1 for a denominator of 16 in a fraction less than 1. **Penalise -1 once only for wrong notation, e.g. 6 out of 16 OR 6:16**
(ii) $\frac{6}{16}$ of 400	M1	F.T. their (b)**(i)** if a fraction less than 1. **(≠1/2)** M1,A0 for 8/16 of 400 if it is F.T. from their table
= 150	A1	150 out of 400 gets the M1, A1 but 150/400 gets M1, A0. A0 if using an incorrect reduction of the fraction from (b)(i)

29.

9. (a) 8 9 10 11 12 7 8 9 10 11 7 8 9 10 6 7 8 9 8	B2	Award B1 for 12 correct.
(b) 4/36 ISW	B2	FT their table. B1 for a numerator of 4 in a fraction <1. B1 for the 36 in a fraction <1. Do not penalize incorrect reduction of fractions.
(c) 4/36 × 180 = 20	M1 A1 6	FT their (b) × 180 (≠ ½) A0 here if there is incorrect reduction M1 A0 for 20/180 Notes Penalise -1 for use of words such as "4 out of 36", "4 in 36" OR "4:36". When fraction and wrong notation seen, DO NOT penalise wrong notation.

30.

2015 June Unit 2 (non calculator) Foundation Tier	✓	Marks	Comments
10.(a) 7 **9** 13 **14** **13** 15 **19** 20 16 **18** 22 **23** **19** 21 **25** 26		B2	B1 for at least 4 correct entries
10.(b) 5/16		B2	FT their list. B1 for a numerator of 5 in a fraction less than 1. B1 for a denominator of 16 in a fraction less than 1. Do not penalise incorrect reduction of fractions from a FT. **NB** Penalise –1 for use of words such as '5 out of 16', '5 in 16'. or '5:16'. When both fraction and wrong notation seen, DO NOT penalise wrong notation

31.

11(a) Q1. A statement regarding e.g. 'not relevant', 'confidentiality', 'too personal' Q2. 'times not exclusive' 'over what period of time?'		 B1 B1	*Only mark answer given in relevant answer space* *Ignore other statements if B1 awarded.* For any equivalent statement. For any **one** of these, or equivalent statement.
11(b) A criticism regarding location or time.		B1	

32.

7. (a) Reason, e.g. outside the bookshop	E1	Accept reference to people not buying, but checking out ready for downloading, 'showcasing', or that 'older people are more likely these days to buy from shops than younger people' Do not accept reference to groups under 20 and over 40.
(b) Two boxes if you are 30	E1	Or refers to widths groups for younger or older people, or unequal groups. Allow 'overlap(s)'. Ignore incorrect response if correct response is given. Do not accept 'doesn't give options for under 20s or over 40s', or '2 options for 20 year olds'
(c) Suitable question with at least 3 boxes, no overlaps or gaps and prices from a low value upwards (to maybe £20) considered or a number of boxes given but concentrated at lower prices	B2	B1 Suitable question with at least 3 boxes, with either consistent overlaps or gaps OR a suitable range of prices is not considered, OR B1 for suitable choice of groups with no gaps or overlaps but without a suitable question being asked *Examples of consistent overlaps or gaps:* *'£0 - £5, £5 - £10, £10 - ... '* *'under £5, £6 - £10, £11 - £15, £16 - ... '* *'over £5, over £10, over £20'** **however possible B2 if asked to tick only one box*
	4	

33.

13 (a) Question 2 because it is not relevant.	B1	Allow e.g. 'not valid' for 'not relevant'. Do not credit 'too personal'. Q2 with no reason, or an incorrect reason, is B0.
(b) Two valid reasons given. E.g. "No box for 'Never'". "'More than 10' and 'less than 20' are not exclusive". "Less than 20 overlaps all the other three answers". "Over what period of time?"	B2 3	B1 for each different reason (maximum of 2 marks). Ignore extra incorrect statements such as, '2nd and 3rd boxes overlap' or 'last box should be more than twenty' if marks have been awarded for correct reasons.