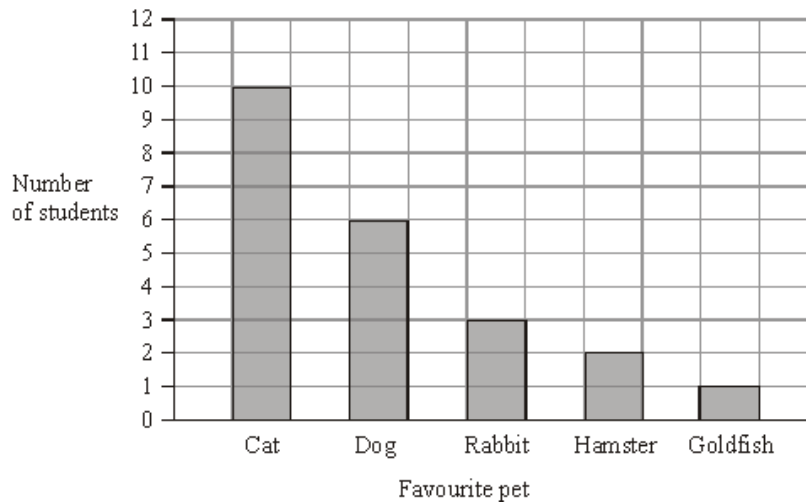


**Foundation GCSE Mathematics Revision Pack****DATA HANDLING – NON-CALC**

- Q1.** Jessica asked some students to tell her their favourite pet. She used the information to draw this bar chart.



- (a) How many students said a rabbit?

.....

**(1)**

- (b) Which pet did most students say?

.....

**(1)**

- (c) Work out the number of students that Jessica asked.

.....

**(1)****(Total 3 marks)****Q2.**

Impossible

Unlikely

Even

Likely

Certain

Which word from the box best describes the likelihood of each of these events?

- (a) You throw an ordinary dice and get an eight.

.....

**(1)**

- (b) You throw a coin and get a Heads.

.....




**(1)**

- (c) December 6th 2008 is the day after December 5th 2008

.....

**(1)****(Total 3 marks)**

- Q3.** The pictogram shows the numbers of hours of sunshine in London on Monday, Tuesday and Wednesday of one week.

|           |   |
|-----------|---|
| Monday    |  |
| Tuesday   |  |
| Wednesday |  |
| Thursday  |   |
| Friday    |   |

Key:  represents 2 hours

- (a) Work out the number of hours of sunshine on Monday.

.....

(1)

- (b) Work out the number of hours of sunshine on Tuesday.

.....

(1)

There were 6 hours of sunshine on Thursday.  
There were 5 hours of sunshine on Friday.


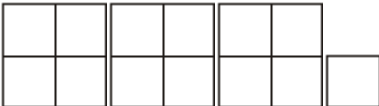
- (c) Use this information to complete the pictogram.

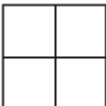
(2)

(Total 4 marks)

- Q4.** Sharif buys some fruit.

The pictogram shows information about the number of apples and the number of oranges he buys.

|         |   |
|---------|---|
| Apples  |  |
| Oranges |  |
| Peaches |   |

Key:  represents 8 fruit

- (a) Write down the number of apples he buys.

.....

(1)

(b) Write down the number of oranges he buys.

.....

(1)

Sharif buys 12 peaches.





(c) Use this information to complete the pictogram.

(1)

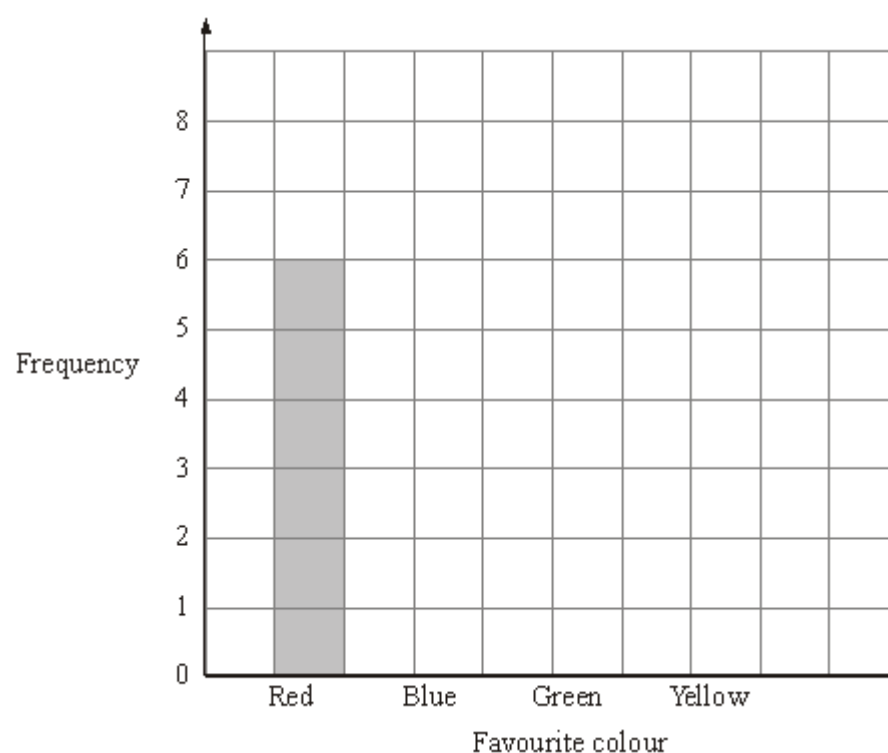
(Total 3 marks)

**Q5.** Steve asked his friends to tell him their favourite colour.

Here are his results.

| Favourite colour | Tally   | Frequency |
|------------------|---|-----------|
| Red              |    | 6         |
| Blue             |    | 8         |
| Green            |   | 5         |
| Yellow           |  | 3         |

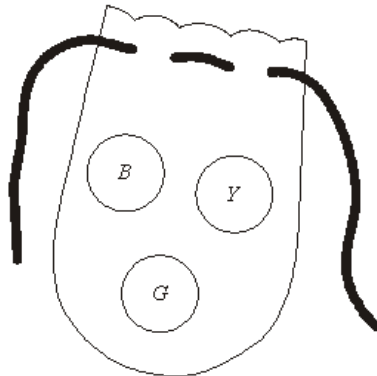
(a) Complete the bar chart to show his results.



(2)

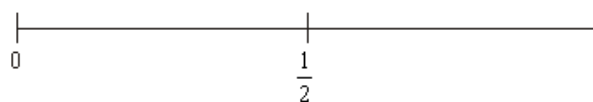
(b) Which colour did most of his friends say?

- Q6.** There are three beads in a bag.  
One bead is blue, one bead is yellow and one bead is green.



Zoe takes a bead at random from the bag.

- (a) On the probability scale, mark with the letter *B* the probability that she takes a blue bead.



(1)

Zoe now throws a coin.  
One possible outcome for the bead and the coin is (green, heads).

- (b) List all the possible outcomes for the bead and the coin.  
One has already been done for you.

(green, heads)

.....  
.....

(2)  
(Total 3 marks)

---

- Q7.** The table shows the distances in kilometres between 5 cities.

|      |       |            |           |      |
|------|-------|------------|-----------|------|
| Hull |       |            |           |      |
| 100  | Leeds |            |           |      |
| 162  | 73    | Manchester |           |      |
| 110  | 60    | 65         | Sheffield |      |
| 63   | 40    | 118        | 95        | York |

- (a) Write down the distance between Hull and Manchester.  
..... km

(1)

(b) From the table, write down the name of the city which is

(i) nearest to Hull, .....

(ii) 60 km from Sheffield. ....

(2)

(Total 3 marks)

**Q8.** The table shows some information about the medals won by each of 6 countries at the 2004 Olympic Games.

|               | Medals |        |        |       |
|---------------|--------|--------|--------|-------|
| Country       | Gold   | Silver | Bronze | Total |
| United States | 35     | 39     | 29     | 103   |
| Russia        | 27     | 27     | 38     | ..... |
| Australia     | 17     | 16     | .....  | 49    |
| Germany       | 14     | 16     | 18     | 48    |
| Italy         | 10     | 11     | 11     | 32    |
| Great Britain | 9      | 9      | 12     | 30    |

(a) Complete the table for Russia and Australia.

(2)

(b) How many bronze medals did Russia win?

.....

(1)

(c) Which country won 10 gold medals?

.....

(1)

Great Britain won a total of 30 medals.

(d) Work out the fraction of these medals which were silver.  
Give your fraction in its simplest form.

.....

(2)

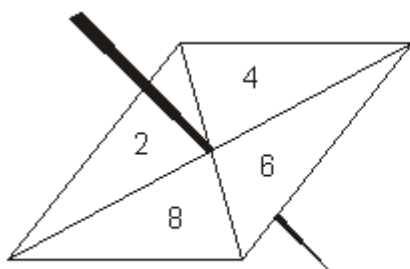
(e) Find the ratio of the total number of medals won by Germany to the total number of medals won by Italy.  
Give your ratio in its simplest form.

.....

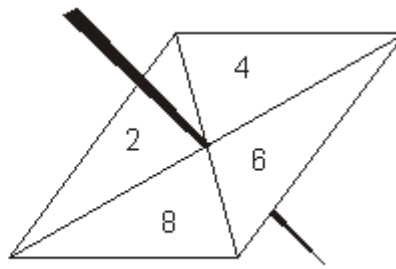
(2)

(Total 8 marks)

- Q9.** Here are two **fair** 4-sided spinners.  
One is a Blue spinner and one is a Red spinner.



**Blue Spinner**



**Red Spinner**

Each spinner has four sections numbered 2, 4, 6 and 8.

Each spinner is to be spun once.

Total score = Blue spinner score + Red spinner score

- (a) List the different ways that the total score can be 8.

.....

**(2)**

Ali and Shazia play a game.

In each round of the game, Ali spins the Blue spinner once and Shazia spins the Red spinner once.

Ali wins when the Blue spinner score is greater than the Red spinner score.

- (b) Work out the probability that Ali will win the first round.

.....

**(4)**

**(Total 6 marks)**

**Q10.** Laura and Jaz were worried about the amount of traffic in their town.

The town council aims to reduce the percentage of lorries to 25% of the total number of vehicles. Laura and Jaz carried out a survey of the types of vehicles passing Laura's house during 10 minutes one Saturday morning.

Here is a list of the vehicles they saw.

|           |                 |       |           |           |    |
|-----------|-----------------|-------|-----------|-----------|----|
| Car       | Van<br>ar       | Lorry | Motorbike | Bus       | C  |
| Van       | Car<br>otorbike | Car   | Van       | Lorry     | M  |
| Motorbike | Motorbike<br>ar | Van   | Lorry     | Motorbike | C  |
| Car       | Bus<br>torbike  | Lorry | Car       | Lorry     | Mo |

Laura and Jaz were going to give a talk about the results of their survey.

- (a) Design a suitable chart or table Laura could use and a different chart or table that Jaz could use to make a summary of the list of vehicles they saw. Use the space below or the grid provided.

|  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|
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(6)

The council's aim was to reduce the percentage of lorries in the town to be less than 25%.

(b) Did the council succeed? You must explain your answer.

.....

.....

(2)

Laura and Jaz's survey was not a good one.

(c) Explain how Laura and Jaz could design a better survey to investigate the council's plan.

.....

.....

(2)

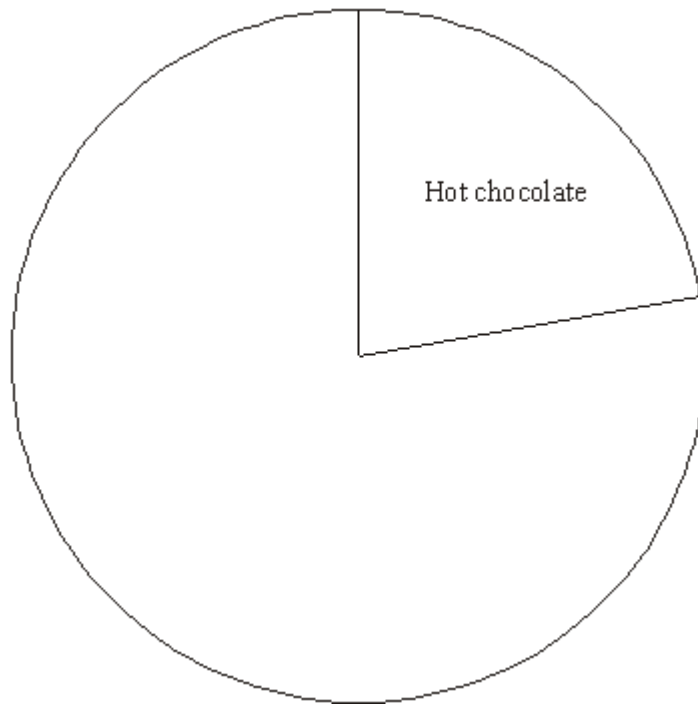
(Total 10 marks)

**Q11.** The table gives information about the drinks sold in a café one day.

| Drink         | Frequency | Size of angle |
|---------------|-----------|---------------|
| Hot chocolate | 20        | 80°           |
| Soup          | 15        |               |
| Coffee        | 25        |               |
| Tea           | 30        |               |



Complete the pie chart to show this information.

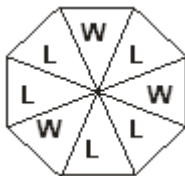


(Total 3 marks)

**Q12.** This spinner is used at a fairground.

When the spinner lands on a **W**, the customer wins a prize.

Diagram **NOT**  
accurately drawn



The fairground owner expects 1000 customers to have a go.  
Estimate the number of prizes the owner should buy.  
Give reasons for your answer.

(Total 3 marks)

**Q13.** A bag contains red, yellow and blue balls.

The probability of drawing a red ball at random is  $\frac{1}{2}$ .  
The probability of drawing a yellow ball at random is  $x$ .  
The probability of drawing a blue ball at random is  $4x$ .

Work out the probability that a blue ball is selected.  
Give your answer as a numerical value.

.....

(Total 3 marks)

**M1.**

|                             | Answer | Mark | Additional Guidance |
|-----------------------------|--------|------|---------------------|
| (a)                         | 3      | 1    | <b>B1</b> cao       |
| (b)                         | Cat    | 1    | <b>B1</b> cao       |
| (c)                         | 22     | 1    | <b>B1</b> cao       |
| Total for Question: 3 marks |        |      |                     |


**M2.**

|                             | Answer     | Mark | Additional Guidance |
|-----------------------------|------------|------|---------------------|
| (a)                         | Impossible | 1    | <b>B1</b> cao       |
| (b)                         | Even       | 1    | <b>B1</b> cao       |
| (c)                         | Certain    | 1    | <b>B1</b> cao       |
| Total for Question: 3 marks |            |      |                     |

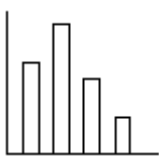
**M3.**

|                             | Answer                   | Mark | Additional Guidance            |
|-----------------------------|--------------------------|------|--------------------------------|
| (a)                         | 8                        | 1    | <b>B1</b> cao                  |
| (b)                         | 3                        | 1    | <b>B1</b> cao                  |
| (c)                         | 3 circles<br>2.5 circles | 2    | <b>B1</b> cao<br><b>B1</b> cao |
| Total for Question: 4 marks |                          |      |                                |

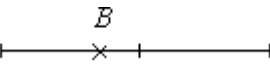
**M4.**

|                             | Answer  | Mark | Additional Guidance                                       |
|-----------------------------|---|------|---|
| (a)                         | 16  | 1    | <b>B1</b> for 16 cao                                      |
| (b)                         | 26  | 1    | <b>B1</b> for 26 cao                                      |
| (c)                         |  | 1    | <b>B1</b> for one box with 4 divisions and 2 small boxes. |
| Total for Question: 3 marks |   |      |   |

**M5.**

|                             | Working   | Answer                           | Mark | Additional Guidance   |
|-----------------------------|---|----------------------------------|------|---|
| (a)                         |  | Bars drawn at heights 8, 5 and 3 | 2    | <b>B2</b> for 3 bars drawn correctly<br>( <b>B1</b> for one bar drawn correctly or for 3 bars with correct heights) |
| (b)                         |   | Blue                             | 1    | <b>B1</b> ft for “blue” (ft from table or their bar chart)  |
| Total for Question: 3 marks |   |                                  |      |   |

**M6.**

|     | Answer  | Mark | Additional Guidance   |
|-----|---|------|---|
| (a) |  | 1    | <b>B1</b> for $B$ marked on line $0.25 \leq B < 0.5$  |
| (b) | (g, t), (y, h), (y, t)<br>(b, h), (b, t)  | 2    | <b>B2</b> for 5 correct pairs (order within brackets need not be consistent, ignore pairs repeated) and no incorrect pairs<br>( <b>B1</b> for 2 or more correct pairs, ignore any |

|                             |  |  |                  |
|-----------------------------|--|--|------------------|
|                             |  |  | incorrect pairs) |
| Total for Question: 3 marks |  |  |                  |

**M7.**

|                             | Answer | Mark | Additional Guidance     |
|-----------------------------|--------|------|-------------------------|
| (a)                         | 162    | 1    | <b>B1</b> for 162 cao   |
| (b)(i)                      | York   | 2    | <b>B1</b> for York cao  |
| (ii)                        | Leeds  |      | <b>B1</b> for Leeds cao |
| Total for Question: 3 marks |        |      |                         |

**M8.**

|                             | Working        | Answer         | Mark | Additional Guidance  |
|-----------------------------|----------------|----------------|------|--|
| (a)                         |                | 92 and 16      | 2    | <b>B1</b> for 92<br><b>B1</b> for 16   |
| (b)                         |                | 38             | 1    | <b>B1</b> cao  |
| (c)                         |                | Italy          | 1    | <b>B1</b> cao  |
| (d)                         | $\frac{9}{30}$ | $\frac{3}{10}$ | 2    | <b>B2</b> cao<br>$\frac{9}{30}$<br>( <b>B1</b> for $\frac{9}{30}$ )  |
| (e)                         | 48:32          | 3:2            | 2    | <b>B2</b> cao<br>( <b>B1</b> for sight of 48, 32 or two numbers in correct proportion)<br>SC <b>B1</b> for 2:3 |
| Total for Question: 8 marks |                |                |      |  |

**M9.**

|     | Working | Answer                 | Mark | Additional Guidance  |
|-----|---------|------------------------|------|--|
| (a) |         | (2, 6)(4, 4)<br>(6, 2) | 2    | <b>M1</b> lists as ordered pairs or in a table with at least 2 entries |



**M11.**

| Working   | Answer                 | Mark | Additional Guidance  |
|---|------------------------|------|--|
| $360^\circ \div 90 = 4$<br>Sector angles: (H = 80);<br>S = 60;<br>C = 100;<br>T = 120 | Angles drawn, labelled | 3    | <b>M1</b> for $360 \div 90$ or $80 \div 20$ or 4 seen or one angle correct in pie chart ( $\div 2^\circ$ ) or table<br><b>A1</b> for any two angles drawn in pie chart<br><b>A1</b> for fully correct and labelled pie chart |
| Total for Question: 3 marks   |                        |      |  |

**M12.**

| Working  | Answer                                      | Mark | Additional Guidance   |
|--|---|------|---|
| Number of prizes should<br>$\frac{3}{8} \times 1000$<br>$= 375$<br><b>OR</b><br>Each triangle should win $1000 \div 8$ times (=125)<br>So $3 \times 125 = 375$ | (376) and justification that matches answer | 3    | <b>M1</b> estimate of probability<br>$\frac{3}{8}$<br><b>A1</b> for answer $> \frac{3}{8}$ of 1000<br><b>C1</b> for justification that matches answer<br>Number of prizes between 376 and 500<br><b>OR</b><br><b>M1</b> $1000 \div 8$<br>$\frac{3}{8}$<br><b>A1</b> for answer $> \frac{3}{8}$ of 1000<br><b>C1</b> for justification that matches answer<br>Number of prizes between 376 and 500 |
| Total for Question: 3 marks  |   |      |   |

**M13.**

| Working  | Answer         | Mark | Additional Guidance  |
|--|----------------|------|--|
| $x + 4x + \frac{1}{2} = 1$<br>$5x = \frac{1}{2}, x = \frac{1}{10}$ | $\frac{4}{10}$ | 3    | <b>M1</b> $x + 4x + \frac{1}{2} = 1$<br><b>A1</b> $x = \frac{1}{10}$ |

|   |  |  |   |
|---|--|--|---|
| <p><b>OR</b></p> <p>Choose a suitable number of balls ( say 10)<br/> 5 will be red<br/> The other 5 need to be shared out in the ratio 1:4, hence 1 yellow and 4 blue</p> |  |  | <p><b>A1</b> <math>\frac{4}{10}</math> oe</p> |
| <p><b>Total for Question: 3 marks</b></p>   |  |  |   |