Materials
For this paper you must have:
• a calculator
• mathematical instruments.

Instructions
• Use black ink or black ball-point pen. Draw diagrams in pencil.
• Answer all questions.
• You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
• Do all rough work in this book.

Information
• The marks for questions are shown in brackets.
• The maximum mark for this paper is 54.
• The quality of your written communication is specifically assessed in Questions 4 and 11. These questions are indicated with an asterisk (*).
• You may ask for more answer paper and graph paper. These must be tagged securely to this answer book.

Advice
• In all calculations, show clearly how you work out your answer.
The pictograms show information about the weather in four cities one year.

Key: **represents 20 days**

<table>
<thead>
<tr>
<th>Number of rainy days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adelaide</td>
</tr>
<tr>
<td>Melbourne</td>
</tr>
<tr>
<td>Perth</td>
</tr>
<tr>
<td>Sydney</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of sunny days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adelaide</td>
</tr>
<tr>
<td>Melbourne</td>
</tr>
<tr>
<td>Perth</td>
</tr>
<tr>
<td>Sydney</td>
</tr>
</tbody>
</table>
1 (a) Circle the city that had the lowest number of rainy days.  

Adelaide       Melbourne       Perth       Sydney  

[1 mark]

1 (b) Circle the city that had  

100 rainy days  
and more than 100 sunny days.  

Adelaide       Melbourne       Perth       Sydney  

[1 mark]

1 (c) How many more sunny days than rainy days did Adelaide have?  

Answer ____________________________  

[2 marks]

1 (d) Use the pictograms to make two comparisons between Melbourne and Perth.  

Comparison 1 ____________________________  

Comparison 2 ____________________________  

[2 marks]
The diagram shows the six faces of a fair dice.

The dice is rolled.

2 (a) Circle the chance of rolling a 1

impossible  unlikely  evens  likely  certain

[1 mark]

2 (b) Circle the chance of rolling a 3

impossible  unlikely  evens  likely  certain

[1 mark]

2 (c) A different fair dice uses only the numbers 4, 5 and 6

Label the diagram so that the dice is

- equally likely to land on 4 and 5
- likely to land on 6

[2 marks]
3 100 people vote for A, B, C or D.

35 vote for A.

$\frac{1}{4}$ vote for B.

20 more vote for C than D.

Use the grid to show this information on a bar chart. [4 marks]
Here is a list of Meera’s wages for March and April.

<table>
<thead>
<tr>
<th>March</th>
<th>April</th>
</tr>
</thead>
<tbody>
<tr>
<td>£131.00</td>
<td>£104.80</td>
</tr>
<tr>
<td>£163.75</td>
<td>£144.10</td>
</tr>
<tr>
<td>£117.90</td>
<td>£117.90</td>
</tr>
<tr>
<td>£170.30</td>
<td>£131.00</td>
</tr>
</tbody>
</table>

In total, how much more were her wages in March than in April? [2 marks]

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Answer £ ________________________

In June, her total wages are £560
She saves 12% of this amount.

How much does she save? [2 marks]

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Answer £ ________________________
There are four seats in a row for Jon (J), Kim (K), Lee (L) and Mo (M). Jon sits in the first seat.

The others choose a seat at random.

5 (a) Write down all the possible arrangements. One has been done for you.

J K L M

5 (b) What is the probability that Kim and Lee sit next to each other?
6 Some cards have a number written on them.

\[2 \quad 4 \quad 7 \quad 7 \quad 9 \quad 10 \quad 14\]

6 (a) Write down the three cards with a range of 2

[1 mark]

6 (b) Write down the three cards with a mean of 5

[2 marks]

6 (c) Write down the four cards with a median of 8.5 and a mode of 7

[2 marks]
A travel company gives this survey to its customers.

How many hotels have you stayed in?
Tick a box.

- □ 0 to 3
- □ 3 to 6
- □ 7 to 10
- □ 11 to 14

7 (a) Write down two things that are wrong with this survey. [2 marks]

1. 

2. 

7 (b) Complete the response section for this question. [1 mark]

How many nights did you stay in a hotel last week?
8 (a) There are 20 chickens.

Work out the number of sheep.

[2 marks]

______________________________
______________________________
______________________________

Answer ______________________
8 (b) What percentage of the animals are cows?

[3 marks]

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Answer __________________________ %

Turn over for the next question
9 (a) Each act in a show has no more than 4 people.

<table>
<thead>
<tr>
<th>Number of people in act</th>
<th>Number of acts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

Altogether there are 68 people.

Work out the number of acts with 4 people.

[3 marks]

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Answer

9 (b) 64% of the audience are female.

Work out the ratio females : males

Give your answer in its simplest form.

[2 marks]

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Answer: ________ : ________
Joe puts up fences of different lengths. The scatter graph shows the time taken for each fence. A line of best fit has been drawn.

10 (a) Describe the correlation.  

Answer ____________________________________________________________________________  [1 mark]

10 (b) Estimate the length of fence that Joe can put up in 4 hours.

Answer ____________________________________________________________________________ metres  [1 mark]
11 Tess shopped at a supermarket once a week for 15 weeks. Here are the amounts she spent, in £, each week.

43  35  39  40  38
36  29  56  32  47
38  52  24  48  21

*11(a) Show the data on an ordered stem-and-leaf diagram. Remember to complete the key.

[4 marks]
11 (b) Tess collects reward points each week based on the amount spent.

<table>
<thead>
<tr>
<th>Amount spent each week</th>
<th>Reward points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than £25</td>
<td>0</td>
</tr>
<tr>
<td>£25 – £50</td>
<td>10</td>
</tr>
<tr>
<td>More than £50</td>
<td>20</td>
</tr>
</tbody>
</table>

Each point is worth 4 pence.

Work out the value, in £, of the points she has collected.

[3 marks]

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Answer £ _______________________

Turn over for the next question
The table shows the ages of some teachers.

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 ≤ age &lt; 30</td>
<td>5</td>
</tr>
<tr>
<td>30 ≤ age &lt; 40</td>
<td>13</td>
</tr>
<tr>
<td>40 ≤ age &lt; 50</td>
<td>9</td>
</tr>
<tr>
<td>50 ≤ age &lt; 60</td>
<td>6</td>
</tr>
<tr>
<td>60 ≤ age &lt; 70</td>
<td>2</td>
</tr>
</tbody>
</table>

12 (a) How many of the teachers are at least 40 years old?

[1 mark]

Answer _________________________________________________
12 (b) Draw a frequency polygon to represent the data. [2 marks]

Turn over for the next question
A game had 100 lettered tiles.
The probability of choosing an \( A \) at random was \( \frac{3}{25} \).

20 tiles were then lost.
The probability of choosing an \( A \) at random is now \( \frac{1}{10} \).

How many \( A \) tiles were lost? [3 marks]

Answer __________________________________________

END OF QUESTIONS
There are no questions printed on this page