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.
1. The pictograms show information about the weather in four cities one year.

   **Number of rainy days**

<table>
<thead>
<tr>
<th>City</th>
<th>Rainy Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adelaide</td>
<td></td>
</tr>
<tr>
<td>Melbourne</td>
<td></td>
</tr>
<tr>
<td>Perth</td>
<td></td>
</tr>
<tr>
<td>Sydney</td>
<td></td>
</tr>
</tbody>
</table>

   Key: ☁️ represents 20 days

   **Number of sunny days**

<table>
<thead>
<tr>
<th>City</th>
<th>Sunny Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adelaide</td>
<td></td>
</tr>
<tr>
<td>Melbourne</td>
<td></td>
</tr>
<tr>
<td>Perth</td>
<td></td>
</tr>
<tr>
<td>Sydney</td>
<td></td>
</tr>
</tbody>
</table>

   Key: ☀️ represents 20 days
1 (a) Circle the city that had the lowest number of rainy days. [1 mark]

Adelaide          Melbourne          Perth          Sydney

1 (b) Circle the city that had

100 rainy days
and more than 100 sunny days. [1 mark]

Adelaide          Melbourne          Perth          Sydney

1 (c) How many more sunny days than rainy days did Adelaide have? [2 marks]

______________________________________________________________________________

Answer _______________________________________

1 (d) Use the pictograms to make two comparisons between Melbourne and Perth. [2 marks]

Comparison 1 _________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

Comparison 2 _________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________
2 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

2 (b) Circle the chance of rolling a 3

impossible unlikely evens likely certain

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
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?

Answer
6 Some cards have a number written on them.

2  4  7  7  9  10  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]
7 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?
The pie chart represents the numbers of animals on a farm.

8 (a) There are 20 chickens.

Work out the number of sheep.

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 __________ : __________
10 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 _______________________________________

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

Answer ________________________________ metres
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]

Key: _____ _____ represents £ _________
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
12 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
13 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

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