Candidates answer on the Question Paper.

OCR supplied materials:
None

Other materials required:
- Scientific or graphical calculator
- Geometrical instruments
- Tracing paper (optional)

INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer all the questions.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Your answers should be supported with appropriate working. Marks may be given for a correct method even if the answer is incorrect.
- Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).
- Do not write in the bar codes.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [ ] at the end of each question or part question.
- The total number of marks for this paper is 60.
- This document consists of 16 pages. Any blank pages are indicated.
Area of trapezium = \( \frac{1}{2} (a + b)h \)

Volume of prism = \((\text{area of cross-section}) \times \text{length}\)
Nigel travels from Clandon to London Waterloo by train. Here is part of the train timetable.

<table>
<thead>
<tr>
<th>Leaving</th>
<th>From</th>
<th>To</th>
<th>Arriving</th>
</tr>
</thead>
<tbody>
<tr>
<td>06:46</td>
<td>Clandon</td>
<td>London Waterloo</td>
<td>07:39</td>
</tr>
<tr>
<td>07:16</td>
<td>Clandon</td>
<td>London Waterloo</td>
<td>08:11</td>
</tr>
<tr>
<td>07:26</td>
<td>Clandon</td>
<td>London Waterloo</td>
<td>08:13</td>
</tr>
<tr>
<td>07:46</td>
<td>Clandon</td>
<td>London Waterloo</td>
<td>08:36</td>
</tr>
<tr>
<td>08:16</td>
<td>Clandon</td>
<td>London Waterloo</td>
<td>09:01</td>
</tr>
</tbody>
</table>

(a) He arrives at Clandon station at this time in the morning.

What time is the next train to London Waterloo?

(a) _________________________ [1]

(b) How many minutes should this train take to get from Clandon to London Waterloo?

(b) _________________________ minutes [1]
This table shows the maximum and minimum temperatures in Guildford one week.

<table>
<thead>
<tr>
<th></th>
<th>Mon</th>
<th>Tues</th>
<th>Wed</th>
<th>Thurs</th>
<th>Fri</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum temperature (°C)</td>
<td>-2</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Minimum temperature (°C)</td>
<td>-4</td>
<td>-2</td>
<td>-3</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

(a) On which day was the lowest minimum temperature?

(a) ___________________________ [1]

(b) What was the difference between the maximum temperature and the minimum temperature on Tuesday?

(b) ___________________________ °C [1]

(c) On Wednesday, the minimum temperature in Cambridge was 8°C lower than the minimum temperature in Guildford that day. What was the minimum temperature in Cambridge that day?

(c) ___________________________ °C [1]
3 Complete the following sentences using metric units from this list.

| m | mm | km | cm | kg | g | ml |

A hen’s egg weighs 70 ________.

A teaspoon holds 5 ________ of medicine.

The length of a desk is 75 ________.

The height of a tree is 20 ________.

4 Cara orders various items from a catalogue.

Complete her order form.

<table>
<thead>
<tr>
<th>Item code</th>
<th>Description</th>
<th>Price per item (£)</th>
<th>Quantity</th>
<th>Cost (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2601X14</td>
<td>Blue velour jacket size 14</td>
<td>35.70</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5431SC</td>
<td>Cream poly-cotton fitted sheet for single bed</td>
<td>23.99</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5437SCB</td>
<td>Cream and blue duvet cover for single bed</td>
<td>31.90</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5438CB</td>
<td>Cream and blue pillowcases</td>
<td>7.99</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>8417</td>
<td>Jute shopping bag</td>
<td>2.50</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post and packing</td>
<td></td>
<td></td>
<td>4.70</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Here are the first three patterns in a sequence.

Pattern 1   Pattern 2   Pattern 3


(a) Draw Pattern 4 in the sequence. [1]

(b) Without drawing it, work out how many dots there are in Pattern 5. Explain how you decide.

_________________ dots because ________________________________________________

_________________________________________________________________________

______________________________________________________________________ [2]

(c) One pattern in the sequence has exactly 90 dots.

Which Pattern number is this?

(c) Pattern ___________________________ [1]
Mike and Jenny serve tea and coffee at a lunch club. They boil 9 litres of water in an urn and 2.7 litres of water in a kettle. They need to serve 48 people a cup of tea or coffee each. Each cup uses 250 ml of water.

Have they boiled enough water to serve everyone? Show how you decide.
This map shows some places in the South of England.

(a) Complete the following using compass directions.

Guildford is __________________________ of Woking.

Newbury is __________________________ of Basingstoke.

(b) Estimate the distance in kilometres between Newbury and Basingstoke.

(b) __________________________ km [2]

(c) Draw a straight line joining Newbury to Farnham.

Measure the bearing of Farnham from Newbury.

(c) __________________________ ° [1]
In this question, use a pair of compasses and a ruler. Leave in all your construction lines.

Triangle ABC has sides $AB = 8.5\text{ cm}$, $AC = 7.3\text{ cm}$ and $BC = 6.8\text{ cm}$.

Complete the accurate drawing of triangle ABC. Side $AB$ has been drawn for you.

[Diagram of triangle ABC with side $AB$ drawn]
9  (a) Simplify.

\[4m + 3t + 5 - 2m + 4t + 6\]

(a) ___________________________ \[3\]

(b) Solve these equations.

(i) \[x + 8 = 0\]

(b)(i) ___________________________ \[1\]

(ii) \[5y - 7 = 1\]

(ii) ___________________________ \[2\]

(c) Rearrange this formula to make \(x\) the subject.

\[y = 4x + 6\]

(c) ___________________________ \[2\]
An examination is taken by candidates from 547 centres.
Write 547 correct to the nearest hundred.

(a) ______________________ [1]

The examination is taken by 76 841 candidates.
Write 76 841 correct to the nearest thousand.

(b) ______________________ [1]

The examination question booklet is made from 5 sheets of A3 size paper.
8 sheets of A3 paper cover 1 square metre.
There are two options for printing the examination booklet.

• Option N: new paper is used, weighing 90 g per square metre.
• Option R: recycled paper is used, weighing 80 g per square metre.

Calculate how much less the examination booklet weighs if Option R is used instead of Option N.
Show how you decide.

(c) ______________________ g [4]
11 (a) Chris grows crocuses in his garden. Each day from when the flowers first appear in spring, he records the colour of the flowers and how many there are. This bar chart shows the results.

On which day does Chris first see a Purple crocus?

(a)(i) Day ____________________________ [1]

How many more Yellow crocuses are there on day 6 than day 3?

(ii) ____________________________ [2]

How many Yellow and Purple crocuses are there altogether on day 7?

(iii) ____________________________ [2]
(b) Joe and Pam planted crocus bulbs in their gardens. They shared a bag of 250 crocus bulbs. The table shows the colour of the flower from each bulb.

<table>
<thead>
<tr>
<th></th>
<th>Yellow</th>
<th>Purple</th>
<th>White</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joe</td>
<td>64</td>
<td>40</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>Pam</td>
<td>56</td>
<td>32</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>120</td>
<td></td>
<td>250</td>
<td></td>
</tr>
</tbody>
</table>

(i) Complete the table. [3]

(ii) Write the ratio 64 : 56 as simply as possible.

(b)(ii) ___________________________ [1]

(c) Sumita bought a pack of 60 crocus bulbs which produced Yellow, Purple or White flowers. The ratio Yellow : Purple : White was 7 : 5 : 3.

How many of the 60 bulbs produced White flowers?

(c) ____________________________ [3]
12 (a) Mandi writes a questionnaire about music. Here is one of her questions and the response boxes for it.

<table>
<thead>
<tr>
<th>How many CDs do you own?</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 5</td>
</tr>
<tr>
<td>5 – 10</td>
</tr>
<tr>
<td>10 – 15</td>
</tr>
<tr>
<td>15 – 20</td>
</tr>
</tbody>
</table>

Mandi has made two different types of error in the categories she has chosen. Explain what these errors are.

1. ______________________________________________________________________
   ______________________________________________________________________

2. ______________________________________________________________________
   ______________________________________________________________________

(b) Mandi analyses the length of time of each track on her CDs. This table summarises the results.

<table>
<thead>
<tr>
<th>Length (t seconds)</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 &lt; t ≤ 100</td>
<td>2</td>
</tr>
<tr>
<td>100 &lt; t ≤ 200</td>
<td>10</td>
</tr>
<tr>
<td>200 &lt; t ≤ 300</td>
<td>15</td>
</tr>
<tr>
<td>300 &lt; t ≤ 400</td>
<td>9</td>
</tr>
<tr>
<td>400 &lt; t ≤ 500</td>
<td>3</td>
</tr>
<tr>
<td>500 &lt; t ≤ 600</td>
<td>1</td>
</tr>
</tbody>
</table>

Calculate an estimate of the mean length of time of these tracks.

(b) __________________________ seconds [4]