Section 1

25 marks
Time allowed for this section is 30 minutes

Answer Questions 1–20 on the Section 1 Answer Sheet

Answer Questions 21–25 in the spaces provided

Each question is worth 1 mark

Calculators are NOT to be used in this section

There will be a short break between Section 1 and Section 2
Section 1

Use the Section 1 Answer Sheet for Questions 1–20.

Instructions for answering Questions 1–20

■ Write firmly and clearly.

■ Numbers must be used for numerical answers.

■ Decimal points and negative signs must be clearly shown in separate boxes.

■ Do NOT let any part of the number or sign touch the sides of the answer boxes.

■ Examples:

\[-1.5 + 1 = \quad -0.5\]

How many days are in a week? \[7\]

What fraction is 2 out of 8? \[\frac{1}{4}\]

What are the coordinates of the origin? \[O = (0, 0)\]

■ Use BLOCK LETTERS for words.

Like this: \[\text{ISOSCELES}\] ✔

NOT like this: \[i s o s c e l e s\] ✗

■ If you make a mistake, cross out the incorrect answer and write the correct answer above the boxes.

9

Like this: \[\overline{9}\]
Use the Section 1 Answer Sheet to answer Questions 1–20.

Space is provided on these pages for working out ONLY. Note: these pages will NOT be marked.

1 \[2^3 + 3^2 = \]

2 \[10x - 2x = \]

3 The ingredients for a banana cake are shown. The cake serves 10 people.

| 250 g butter |
| 1 cup caster sugar |
| 3 eggs |
| 3 over-ripe bananas |
| 2 cups self-raising flour |

How many grams of butter are needed to make a banana cake that serves 30 people?

4 Evaluate \[27^{\frac{1}{3}}.\]

5 \[0.12 - 0.1 = \]

6 The perimeter of an equilateral triangle is 96 centimetres.

What is the length of one side?
7  *ABC* is a right-angled triangle.

![Diagram of a right-angled triangle with points A, B, and C]

What are the coordinates of point C?

8  How many minutes are in \( \frac{2}{5} \) of one hour?

9  20% of an amount is 40.

What is the amount?

10 What is the mean of 9, 9, 12, 15 and 20?
11 The perimeter of the field below is 89 m.

What is the length of the curved part of the perimeter?

12 The scale on this diagram is 1 : 1,000,000.

How many kilometres is Bluff Lighthouse from Bright Tower?

13 \((8 \times 10^5) \div (2 \times 10^3) =\)
14 An item decreased in value from $20 to $5.

What is the percentage decrease?

15 Find the value of $10 + ak$ when $a = 7$ and $k = -2$.

16 Tina and Jill play a game where points are scored as follows:

<table>
<thead>
<tr>
<th>WIN</th>
<th>+7</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOSS</td>
<td>-3</td>
</tr>
</tbody>
</table>

Tina wins 5 games and loses 3 games, and Jill wins 3 games and loses 5 games.

What is the difference in their final scores?
17 \(ABCD\) is a rhombus. Its area is 48 cm\(^2\), and \(AC = 8\) cm.

What is the length of \(BD\)?

18 The circle has \(AB\) as a diameter and centre \(C\).

What are the coordinates of \(A\)?
19 In the triangle, \( \sin \theta = \frac{4}{5} \).

\[ \text{NOT TO SCALE} \]

What is the value of \( x \)?

20 There are four prime factors of 2010.

What are three of these prime factors?
21 \[2 - \frac{1}{3} = \]

22 Write down a possible value for each of the symbols □ and △.

\[k^9 = k^{□} \times k^{△}\]

□ = ........................

△ = ........................

23 The graph shows sales of MP3 players over a period of years.

MP3 Sales

Give ONE reason why this graph could be misleading.

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24 Explain the difference in meaning between $a \times a$ and $2a$.

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25 A sketch of triangle $ABC$ is given.

Using geometrical instruments and the line $AB$ below, construct the triangle accurately.

End of Section 1