INSTRUCTIONS

- Answer all questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do not use an erasable pen or correction fluid.
- Do not write on any bar codes.
- You should use a calculator where appropriate.
- You may use tracing paper.
- You must show all necessary working clearly.
- Give non-exact numerical answers correct to 3 significant figures, or 1 decimal place for angles in degrees, unless a different level of accuracy is specified in the question.
- For π, use either your calculator value or 3.142.

INFORMATION

- The total mark for this paper is 56.
- The number of marks for each question or part question is shown in brackets [ ].
1 (a) Write the number four hundred thousand and four hundred in figures.  

.................................................  [1]

(b) Write 60287 correct to the nearest ten.  

.................................................  [1]

2 Find the value of $\sqrt{345.96}$.  

.................................................  [1]

3 Write down the mathematical name for this type of angle.  

.................................................  [1]

4 (a) Write 9% as a decimal.  

.................................................  [1]

(b) Write 0.6 as a fraction in its simplest form.  

.................................................  [1]
5  Write down the reciprocal of 20.

.................................................  [1]

6  (a)  Write down the order of rotational symmetry of a rectangle.

.................................................  [1]

(b)  Draw all the lines of symmetry on this equilateral triangle.

Draw all the lines of symmetry on this equilateral triangle.  [2]

7  In triangle $ABC$, $AB = 7$ cm and $BC = 5.6$ cm.

Using a ruler and compasses only, construct triangle $ABC$.
Leave in your construction arcs.
The line $AC$ has been drawn for you.
8 The temperature at midnight is $-8.5\, ^\circ C$.
The temperature at 11 am is $-1\, ^\circ C$.

Work out the difference between the temperature at midnight and the temperature at 11 am.

............................................. $^\circ C$ [1]

9 Change 0.3 metres into centimetres.

............................................. cm [1]

10

Write down the mathematical name of this polygon.

................................................. [1]
The diagram shows a cuboid.

On the 1cm$^2$ grid, draw an accurate net of this cuboid.
One face has been drawn for you.
The stem-and-leaf diagram shows the age, in years, of each of 15 women.

```
3 | 1 5 8 9
4 | 1 1 2 3 5 6 9
5 | 0 2 3 8
```

Key: 3 | 1 represents 31 years

Complete these statements.

The modal age is

The median age is

The percentage of women that are older than 51 years is

The price of a coat is 84.60 euros.

Find the price of the coat in dollars when the exchange rate is 1 euro = $1.15.

$ ...........................................  \ [1]

Work out.

(a) \( \binom{3}{-2} + \binom{-5}{7} \)

\[ \begin{pmatrix} 3 \\ -2 \end{pmatrix} + \begin{pmatrix} -5 \\ 7 \end{pmatrix} \]  \ [1]

(b) \( 5 \binom{3}{-1} \)

\[ 5 \begin{pmatrix} 3 \\ -1 \end{pmatrix} \]  \ [1]
15  Change 2.15 hours into minutes.

..........................................  min [1]

16  (a)  Solve.

\[ 7x + 18 = 4 \]

\[ x = \] ................................................ [2]

(b)  \[ 7^y \times 7^6 = 7^{18} \]

Find the value of \( y \).

\[ y = \] ................................................ [1]
These are the first four terms of a sequence.

\[3 \quad 10 \quad 17 \quad 24\]

(a) Write down the next term.

.................................................  [1]

(b) Write down the term to term rule.

................................................. [1]

(c) Find the \(n\)th term.

................................................. [2]

(d) Find the 40th term.

................................................. [2]
Triangle $ABC$ and triangle $ACD$ are isosceles.

Angle $DAB = 86^\circ$ and angle $ADC = 58^\circ$.

Find the value of $x$.

$x = ................................................  \ [3]$
20 Without using a calculator, work out \( \frac{1}{3} \div \frac{7}{6} + \frac{1}{5} \).

You must show all your working and give your answer as a fraction in its simplest form.

................................................. [4]

21 Work out the size of one interior angle of a regular 10-sided polygon.

................................................. [2]

22 In a group of 650 people, 117 are left-handed.

Find the expected number of left-handed people in a group of 5000 people.

................................................. [2]
23 (a) At an airport, 216 people are asked whether they speak English \((E)\) or French \((F)\).

125 speak English.
43 speak both English and French.
61 do not speak English or French.

\[(i)\] Complete the Venn diagram. \([2]\]

\[(ii)\] Find \(n(F)\). \([1]\]

(b) On this Venn diagram, shade the region \(A \cap B\). \([1]\]

Question 24 is printed on the next page.
Yasmin has 4 white flowers, 3 red flowers and \( x \) yellow flowers.

She picks a flower at random.

The probability that it is white is \( \frac{1}{5} \).

Find the probability that it is yellow.

................................................. \[4\]