Cambridge IGCSE

Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER | | | | | |

CANDIDATE NUMBER | | | | |

9138230377

MATHEMATICS **0580/13**

Paper 1 (Core) **October/November 2015**

1 hour

Candidates answer on the Question Paper.

Additional Materials: Electronic calculator
Tracing paper (optional)
Geometrical instruments

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.
Write in dark blue or black pen.
You may use an HB pencil for any diagrams or graphs.
Do not use staples, paper clips, glue or correction fluid.
DO **NOT** WRITE IN ANY BARCODES.

Answer **all** questions.
If working is needed for any question it must be shown below that question.
Electronic calculators should be used.
If the degree of accuracy is not specified in the question, and if the answer is not exact, give the answer to three significant figures. Give answers in degrees to one decimal place.
For π, use either your calculator value or 3.142.

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.
The total of the marks for this paper is 56.

The syllabus is approved for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

This document consists of **11** printed pages and **1** blank page.

1 Write in figures the number six thousand and fifty four.

Answer ..... [1]

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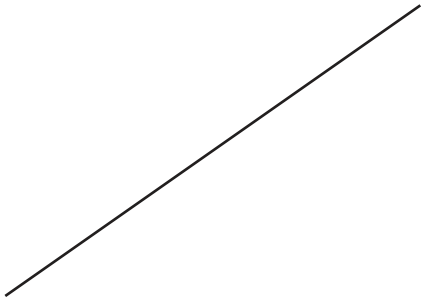
2 Measure the length of this line in centimetres.



Answer ..... cm [1]

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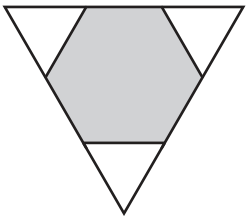
3 Write down the order of rotational symmetry of this shape.



Answer ..... [1]

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4 Write 168.9 correct to 2 significant figures.

Answer ..... [1]

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5 Calculate $\frac{2.07 - 1.89}{5.71 - 3.92}$.

Answer ..... [1]

---

6 The probability that it will rain on any day is $\frac{1}{5}$.

Calculate an estimate of the number of days it will rain in a month with 30 days.

Answer ..... [1]

---

7 11 12 13 14 15 16

From the list of numbers, write down

(a) the factors of 60,

Answer(a) ..... [1]

(b) the prime numbers.

Answer(b) ..... [1]

---

8 These are the first four terms in a sequence.

21 17 13 9

(a) Write down the next number in this sequence.

Answer(a) ..... [1]

(b) Write down the rule for continuing the sequence.

Answer(b) ..... [1]

---

9 Simplify.

$1 - 2u + u + 4$

Answer ..... [2]

---

10 **(a)** At 9 am the temperature was –3°C.
At 1pm the temperature had risen by 5°C.

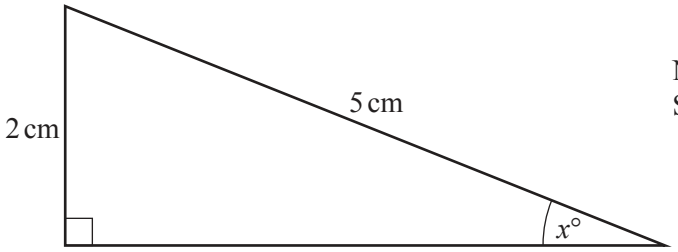
Work out the temperature at 1pm.

Answer(a) .....°C [1]

(b) Work out –7 – 2.

Answer(b) ..... [1]

11



NOT TO SCALE

Calculate the value of x.

Answer x = ... [2]

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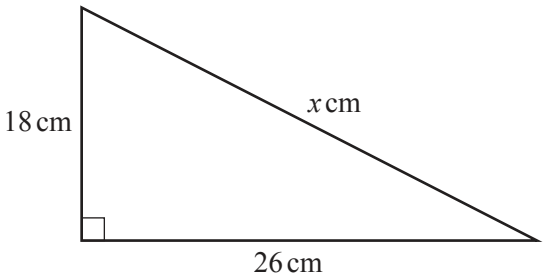
12 Write 72 as a product of its prime factors.

Answer ..... [2]

13



NOT TO SCALE

Calculate the value of x.

Answer x = ... [2]

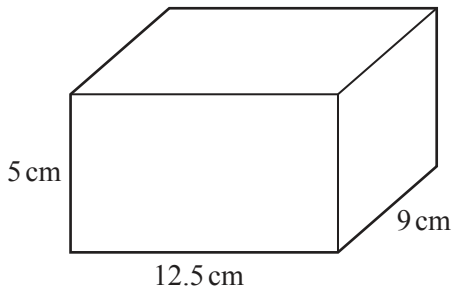
---

14 In this question use a ruler and compasses only and show all your construction arcs.

Using a scale of 1 centimetre to represent 50 metres, construct a triangle with sides 550 m, 450 m and 300 m. The 300 m side has been drawn for you.

[2]

15



NOT TO SCALE

Calculate the volume of this cuboid.
Give the units of your answer.

Answer .... [3]

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16 Work out $\frac{2}{3} + \frac{1}{6} - \frac{1}{4}$, giving your answer as a fraction in its lowest terms.

Do not use a calculator and show all the steps of your working.

Answer ..... [3]

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17 **(a)** Multiply out.

$3(x + 7)$

Answer(a) ..... [1]

(b) Factorise completely.

$2x - 4x^2$

Answer(b) ..... [2]

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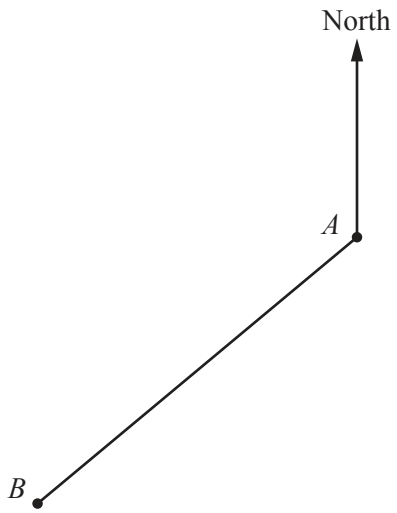
18 This scale drawing shows the positions of two towns, A and B, on a map.



(a) Measure the bearing of town B from town A.

Answer(a) ..... [1]

(b) On the map, town C is 8 cm from town A on a bearing of 155°.

Mark the position of town C on the scale drawing. [2]

---

19 **(a)** Write 1.7×10^{-4} as an ordinary number.

Answer(a) ..... [1]

(b) Work out $(3.8 \times 10^{4}) \times (2.7 \times 10^{-8})$.
Give your answer in standard form.

Answer(b) ..... [2]

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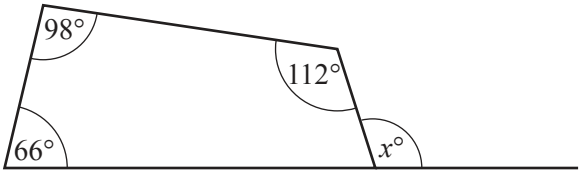
20 **(a)** The diagram shows a quadrilateral with one side extended.



NOT TO SCALE

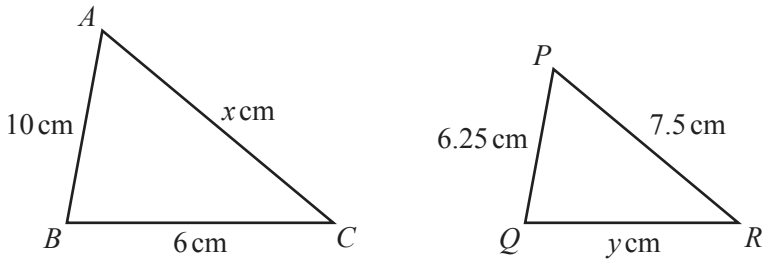
Find the value of x.

Answer(a) x = ... [2]

(b) Find the sum of the interior angles of a 25-sided polygon.

Answer(b) ..... [2]

21



NOT TO SCALE

The diagram shows two similar triangles ABC and PQR.

Find the value of

(a) x,

Answer(a) x = ... [2]

(b) y.

Answer(b) y = ... [2]

---

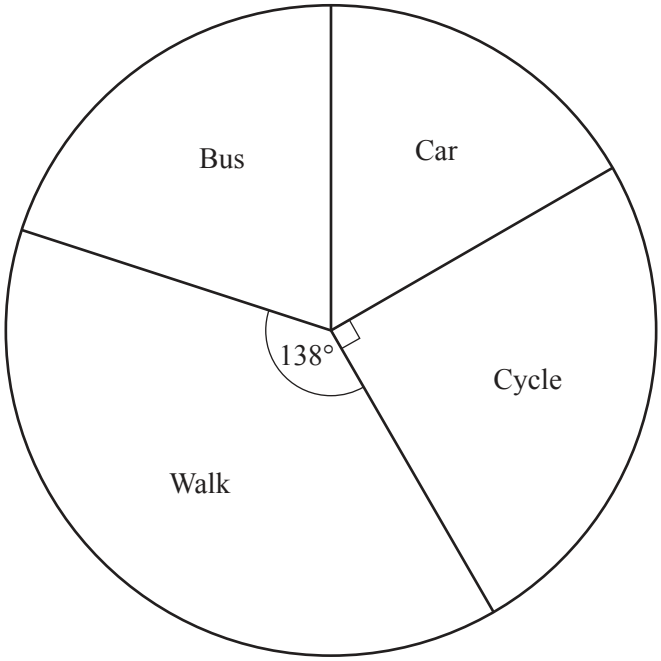
22 Solve the simultaneous equations.
You must show all your working.

$5x + 2y = 8$
$2x - 3y = 26$

Answer $x =$ .....

$y =$ ..... [4]

23 **(a)** The pie chart shows how 120 students travel to school.



(i) Measure the sector angle for the students who travel to school by car.

Answer(a)(i) ..... [1]

(ii) What fraction of the students cycle to school?

Answer(a)(ii) ..... [1]

(iii) Calculate how many students walk to school.

Answer(a)(iii) ..... [2]

(b) Wei records the number of children living in each of the houses in a street.
Her results are recorded in the table.

Number of children	Frequency
0	3
1	3
2	8
3	5
4	4
5	2

Calculate the mean number of children per house.

Answer(b) ..... [3]

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