Cambridge IGCSE

Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER | | | | | |

CANDIDATE NUMBER | | | | |

6954829168

MATHEMATICS **0580/11**

Paper 1 (Core) **May/June 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 **10** printed pages and **2** blank pages.

1 There are 31 days in January.
January 21st 2015 was a Wednesday.

What day of the week was February 8th 2015?

Answer ..... [1]

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2 The temperature in Berlin is –7 °C and the temperature in Istanbul is –3 °C.

(a) Write down how many degrees colder it is in Berlin than it is in Istanbul.

Answer(a) ..... °C [1]

(b) Sydney is 23 degrees warmer than Berlin.

Write down the temperature in Sydney.

Answer(b) ..... °C [1]

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3 **(a)** A mass of 300 kg is increased by 8%.

Work out the increase in mass.

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

(b) Nelson scores 27 out of 40 in a history test.

Work out his score as a percentage.

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

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4 The total mass of 38 spoons is 1824 g.

Work out the mass of 53 spoons.

Answer ..... g [2]

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5 Prince Charming invests $3000 for 5 years at a rate of 4% per year simple interest.

Calculate the **total interest** he will receive.

Answer $..... [2]

---

6 **Using a ruler and compasses only**, construct a triangle with sides 5 cm, 6 cm and 7 cm.

The 5 cm side has been drawn for you.

[2]

7

equilateral triangle	**square**
regular pentagon	**parallelogram**
regular hexagon	**circle**

From the list write down

(a) the shape which has more than 6 lines of symmetry,

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

(b) the shape which has both acute and obtuse interior angles.

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

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8 $\mathbf{a} = \begin{pmatrix} 3 \\ 5 \end{pmatrix}$ $\mathbf{b} = \begin{pmatrix} -8 \\ 7 \end{pmatrix}$

Write each of the following as a single vector.

(a) $3\mathbf{a}$

Answer(a) $\begin{pmatrix} \quad \\ \quad \end{pmatrix}$ [1]

(b) $\mathbf{a} - \mathbf{b}$

Answer(b) $\begin{pmatrix} \quad \\ \quad \end{pmatrix}$ [1]

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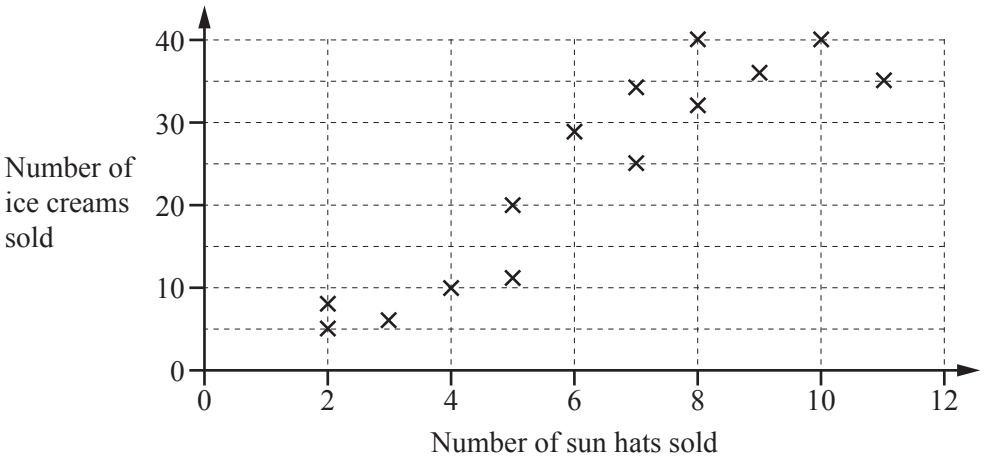
9 The scatter diagram shows the number of sun hats and ice creams sold by a shop each day for two weeks.



(a) Write down the type of correlation shown by the diagram.

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

(b) Describe the relationship between the number of sun hats sold and the number of ice creams sold.

Answer(b) .....

..... [1]

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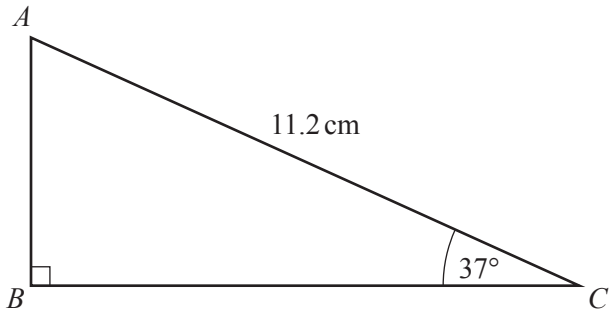
10 Simplify.

$6uw^{-3} \times 4uw^{6}$

Answer ..... [2]

11



NOT TO SCALE

Calculate AB.

Answer AB = ... cm [2]

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12 **(a)** Write down the co-ordinates of the point where the line $y = 3x + 5$ crosses the y-axis.

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

(b) Write down the equation of a line that is parallel to the line $y = 3x + 5$.

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

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13 **(a)** Factorise.

$3w^2 - 2w$

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

(b) Expand and simplify.

$x(2x + 3) + 5(x - 7)$

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

---

14 Six donkeys are **each** given two 5 ml spoons of medicine three times each day.

Calculate the number of whole days a 2 litre bottle of medicine will last.

Answer ..... days [3]

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15 A cuboid has volume 288 cm^3.

(a) The cuboid has length 12 cm and width 5 cm.

Calculate the height of the cuboid.

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

(b) 1 cm^3 of the cuboid has a mass of 4 g.

Work out the mass of the cuboid.

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

[Turn over

16 **Without using a calculator**, work out $1\frac{4}{5} \div \frac{3}{7}$.

Show all your working and give your answer as a fraction in its lowest terms.

Answer ..... [3]

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17 **(a)** Write 82 600 in standard form.

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

(b) Calculate $\dfrac{6.02 \times 10^8 - 5 \times 10^6}{3 \times 10^6}$.

Give your answer in standard form.

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

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18 Solve the equation.

$$5(3y - 2) = 35$$

Answer $y =$ ..... [3]

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19 In this question use a ruler and compasses.

Shade the region inside rectangle *ABCD* that is

- more than 2 cm from *AD*

and

- more than 4 cm from *B*.

[3]

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20 (a) 2, 3, 6, 11, 18, . . .

(i) Write down the next two terms in this sequence.

Answer(a)(i) ..... , ... [2]

(ii) Describe, in words, the rule for continuing this sequence.

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

(b) The nth term of a different sequence is $4n - 3$.

Work out the first three terms in this sequence.

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

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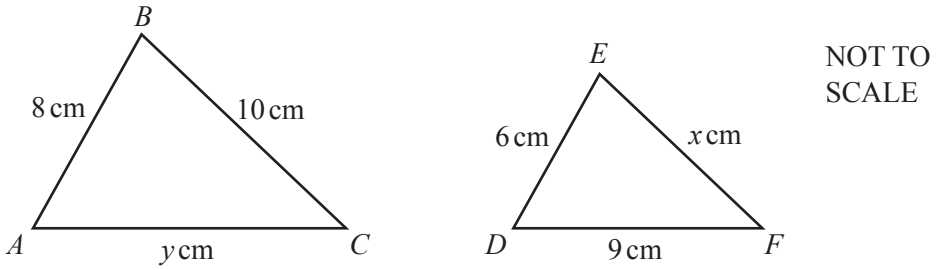
21 **(a)** Write 30 as a product of its prime factors.

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

(b) Find the lowest common multiple (LCM) of 30 and 45.

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

22



Triangle *ABC* is similar to triangle *DEF*.

Calculate the value of

(a) x,

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

(b) y.

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

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