Cambridge IGCSE

Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

* 9 7 6 9 9 7 0 2 6 2 *

MATHEMATICS **0580/17**

Paper 1 (Core) **May/June 2014**

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.

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1 Write down a factor of 21.

Answer ..... [1]

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2 Write in figures the number four hundred and two thousand nine hundred and six.

Answer ..... [1]

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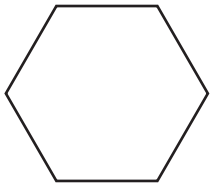
3 Write down the mathematical name of this shape.



Answer ..... [1]

---

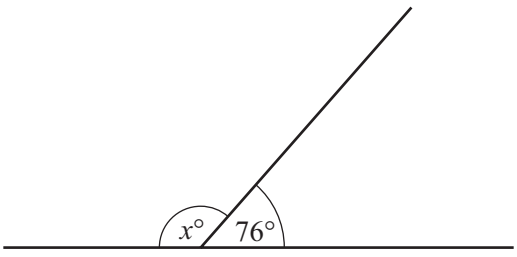
4 In a desert the noon temperature was 28 °C.
At midnight the temperature was 33 °C lower than the noon temperature.

Find the temperature at midnight.

Answer ..... °C [1]

---

5 Work out the value of x.



NOT TO
SCALE

Answer x = ... [1]

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6 Choose a symbol from the list below to make each statement correct.

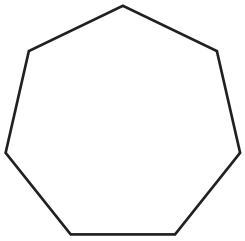
$=$ $<$ $>$

(a) $\frac{8}{11}$ ..... 72% [1]

(b) 0.004 ..... 4% [1]

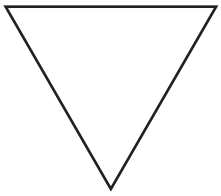
---

7 **(a)** Write down the order of rotational symmetry of this shape.



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

(b) Draw the lines of symmetry on this shape.



[1]

---

8 Insert one pair of brackets into each of these calculations to make the answer correct.

(a) $6 + 14 \div 2 - 3 = 7$ [1]

(b) $9 + 4^2 \times 3 + 2 = 89$ [1]

---

9 A L G E B R A

(a) A letter is chosen at random from the list.

Find the probability that the letter chosen is A.

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

(b) A letter is chosen at random from the list and then replaced.
This is done 63 times.

Work out the number of times the letter A is expected to be chosen.

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

---

10 During a football match a player ran 7.8 km, correct to 1 decimal place.

Complete the statement about the distance, d km, the player ran during the football match.

Answer ..... $\leqslant d <$ ..... [2]

---

11 Sara invests \$600 at a rate of 4% per year compound interest.

Calculate the total amount Sara has after 2 years.

Answer \$..... [2]

---

12 Calculate $\dfrac{3.27 \times 0.84}{5.32 - 2.15}$.

Give your answer correct to 4 significant figures.

Answer ..... [2]

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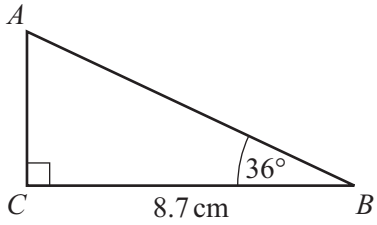
13

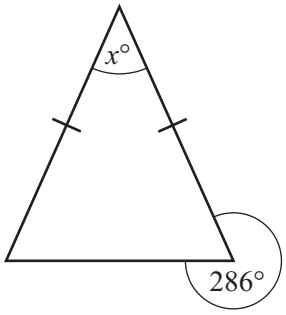


NOT TO SCALE

Use trigonometry to calculate AC.

Answer AC = ... cm [2]

14



NOT TO SCALE

The diagram shows an isosceles triangle.

Find the value of x.

Answer x = ... [2]

---

15 **(a)** Calculate 19% of \$461.

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

(b) A computer costs \$485.
The cost is reduced by 24% in a sale.

Calculate the cost of the computer in the sale.

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

---

16 Solve the simultaneous equations.

$$3x - y = 10$$
$$x + 2y = 1$$

Answer x = ...

y = ... [3]

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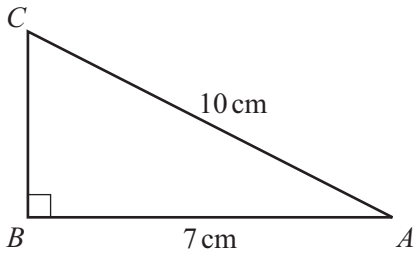
17



NOT TO SCALE

Calculate the length of BC.

Answer BC = ... cm [3]

---

18 Work out $\left(\frac{1}{8} + \frac{2}{3}\right) \div \frac{5}{4}$, giving your answer as a fraction.

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

Answer ..... [3]

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[Turn over

19 Ilde leaves her home at 05 20 and drives to her friend's house.
Her average speed is 96 km/h.
She arrives at her friend's house at 09 05.

Calculate the distance she drives.

Answer ..... km [3]

---

20 $\mathbf{p} = \begin{pmatrix} 2 \\ 4 \end{pmatrix}$ $\mathbf{q} = \begin{pmatrix} -4 \\ 1 \end{pmatrix}$ $\mathbf{r} = \begin{pmatrix} 0 \\ -5 \end{pmatrix}$

Find

(a) $3\mathbf{p}$,

Answer(a) ( ) [1]

(b) $2\mathbf{r} - \mathbf{q}$.

Answer(b) ( ) [2]

---

21 A cylinder has radius 6 cm and height 15 cm.

(a) Calculate the volume of the cylinder.

Answer(a) ..... cm^3 [2]

(b) Luigi has a jug containing 2 litres of water.
He fills the empty cylinder with water from the jug.

How much water is left in the jug?
Give the units of your answer.

Answer(b) .... [3]

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22 **(a)** Here are the first four terms in a sequence.

4 7 10 13

(i) Write down the next term in the sequence.

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

(ii) Work out the eighth term of the sequence.

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

(b) The nth term of a different sequence is $5n + 4$.

Find the first three terms of this sequence.

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

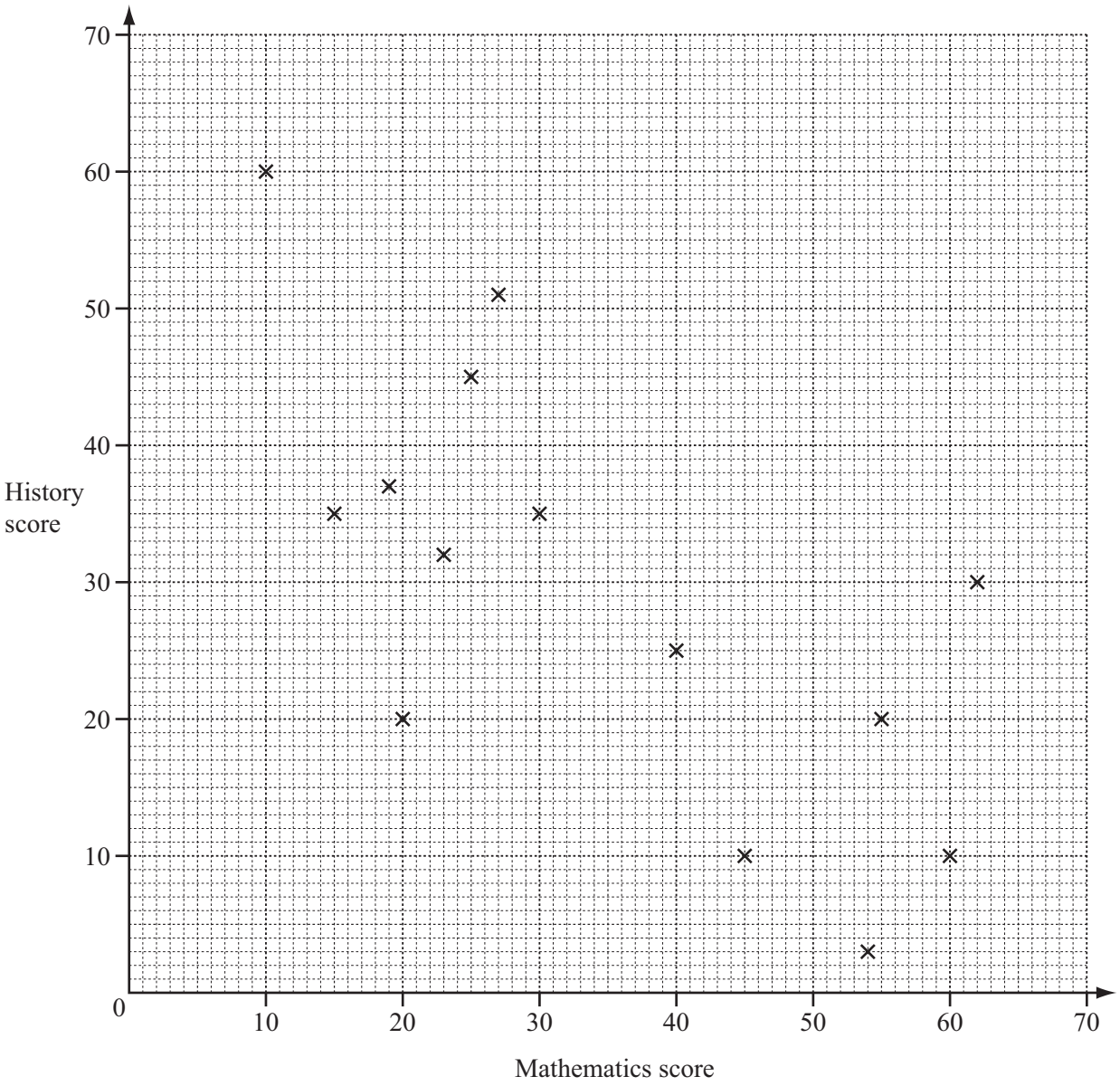
(c) Here are the first four terms of another sequence.

-5 -1 3 7

Find the nth term of this sequence.

Answer(c) ..... [2]

23



14 students take tests in mathematics and history.
Their scores are plotted on the scatter diagram.

(a) Another 4 students take both tests.
Their scores are shown in the table.

Mathematics score	30	61	17	37
History score	25	5	53	18

Plot these scores on the scatter diagram. [2]

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(b) (i) On the scatter diagram, draw a line of best fit. [1]

(ii) A different student scores 40 on the history test.

Use your line of best fit to estimate a mathematics score for this student.

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

(iii) What type of correlation is shown on the scatter diagram?

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

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