Cambridge IGCSE

Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

2222334677 0

MATHEMATICS **0580/12**

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.

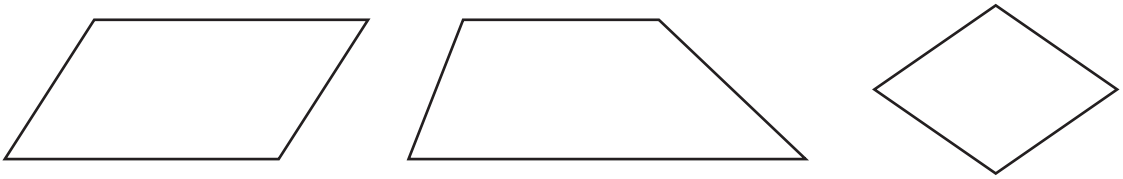
This document consists of **11** printed pages and **1** blank page.

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1 Write down the difference in temperature between 8°C and −9°C.

Answer .....°C [1]

2



Parallelogram Trapezium Rhombus

Write down which one of these shapes has

- rotational symmetry of order 2

and

- no line symmetry.

Answer..... [1]

---

3 Write down the number in this list that is irrational.

1.2×10^{-3} $\sqrt{3}$ $\frac{5}{7}$ –36.2 47.35%

Answer..... [1]

---

4 Show that $0.3 \neq \frac{1}{3}$.

Answer

[1]

---

5 Write 1426.3075 correct to

(a) 2 decimal places,

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

(b) 2 significant figures.

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

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6 $2600 is invested for 5 years at a rate of 4% per year simple interest.

Calculate the total interest at the end of the 5 years.

Answer $ ..... [2]

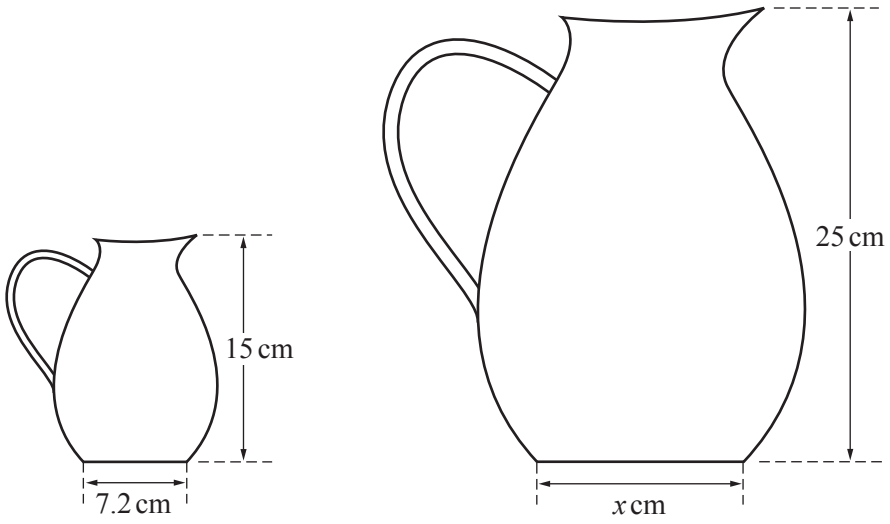
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7 Carlos changed $950 into euros (€) when the exchange rate was €1 = $1.368 .

Calculate how many euros Carlos received.

Answer € ..... [2]

8



NOT TO SCALE

The diagram shows two jugs that are mathematically similar.

Find the value of x.

Answer x = ... [2]

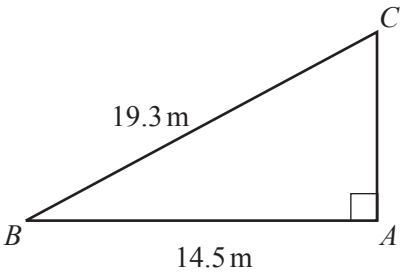
9

$$-1, \quad 3, \quad 7, \quad 11, \quad .....$$

Write down the nth term for this sequence.

Answer ..... [2]

10



NOT TO SCALE

Use trigonometry to calculate angle ACB.

Answer Angle ACB = ... [2]

---

11 **(a)** Solve.

$$3x^2 = 108$$

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

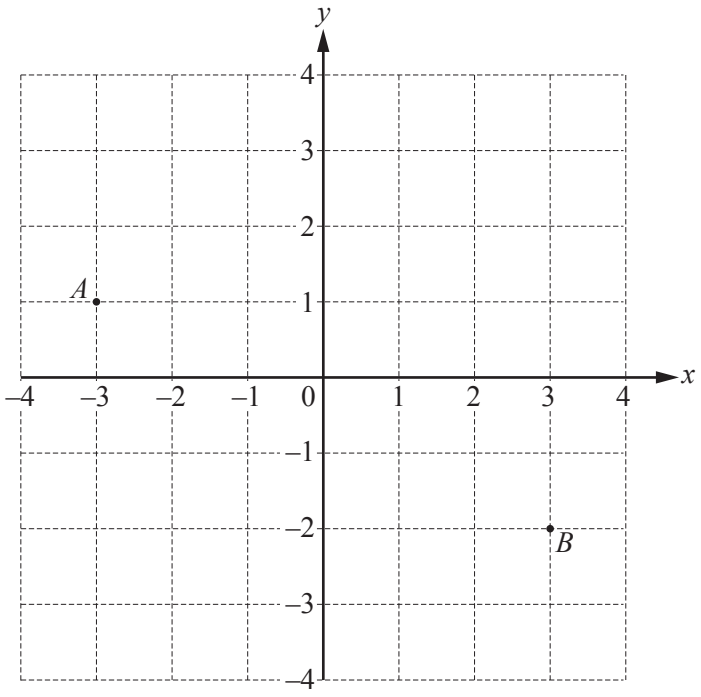
(b) $w^6 \times w^k = w^{18}$

Find the value of k.

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

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12 (a)



Points A and B are shown on the grid.

Write $\overrightarrow{AB}$ as a column vector.

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

(b) $\overrightarrow{CD} = \begin{pmatrix} 5 \\ -7 \end{pmatrix}$

Write $\overrightarrow{DC}$ as a column vector.

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

---

13 Rearrange the formula to make y the subject.

$$R = \frac{ty}{4}$$

Answer $y =$ ..... [2]

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14 **(a)** Write down the number in the list below that has the same value as $\frac{5}{8}$.

$\frac{3}{5}$ 0.58 $\frac{25}{64}$ $\frac{55}{80}$ 62.5%

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

(b) Find $\frac{5}{8}$ of \$208.56 .

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

---

15 Construct a triangle with sides of length 55 mm, 68 mm and 85 mm.

The 85 mm side has been drawn for you.

[2]

---

16 Fruit juice costs \$1.27 per litre and rice costs \$1.68 per kilogram.

Work out the total cost of 4 litres of fruit juice and 3.5 kilograms of rice.

Answer \$..... [3]

---

17 Jason receives some money for his birthday.
He spends $\frac{11}{15}$ of the money and has \$14.40 left.

Calculate how much money he received for his birthday.

Answer \$ ..... [3]

---

18 The table shows information about the numbers of pets owned by 24 students.

Number of pets	0	1	2	3	4	5	6
Frequency	1	2	3	5	7	3	3

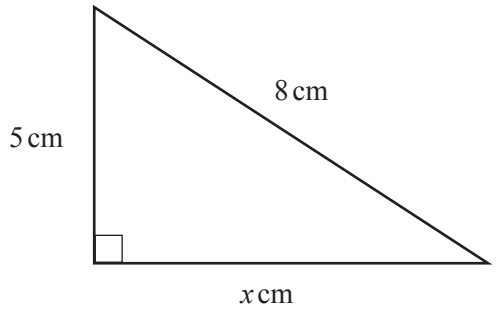
Calculate the mean number of pets.

Answer ..... [3]

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[Turn over

19



NOT TO SCALE

Calculate the value of x.

Answer x = ... [3]

---

20 Without using your calculator, work out $2\frac{1}{4} - \frac{11}{12}$.

You must show all your working and give your answer as a fraction in its lowest terms.

Answer ..... [3]

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21 Write down a set of five numbers that has

- a mode of 3

and

- a median of 6

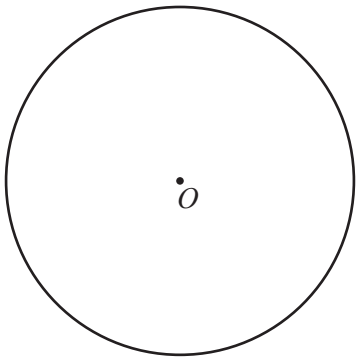
and

- a range of 5.

Answer ....., ..., ..., ..., ... [3]

---

22 **(a)**



O is the centre of the circle.

Measure the diameter of this circle.
Give your answer in millimetres.

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

(b) A circular dinner plate has radius 12.7 cm.

Work out the area of the plate.

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

---

23 **(a)** Expand.

$$-4(2w-5)$$

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

(b) Factorise.

$$6x^2 - x$$

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

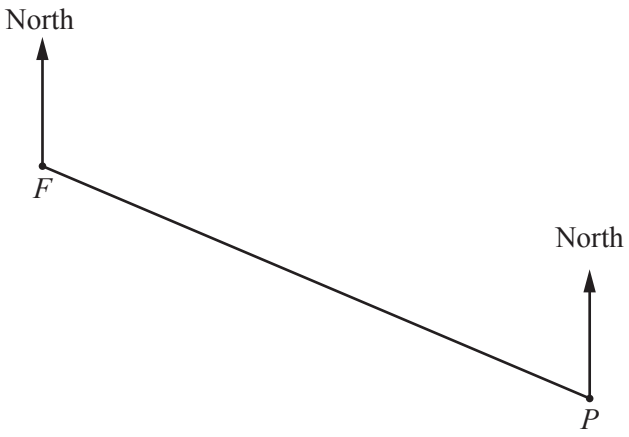
(c) $A = 2pq + 3pr$

Find A when $p = 7$, $q = 5$ and $r = -2$.

Answer(c) $A =$ ..... [2]

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24 The scale drawing shows the positions in a town of the Police station, P, and the Fire station, F.
The scale is 1 centimetre represents 40 metres.



Scale: 1 cm to 40 m

(a) Measure the bearing of P from F.

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

(b) Find the actual distance from F to P.

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

(c) The Ambulance station, A, is on a bearing of 236° from F.

Work out the bearing of F from A.

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

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