Cambridge IGCSE

Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER | | | | | |

CANDIDATE NUMBER | | | | |

2363948247

MATHEMATICS **0580/12**

Paper 1 (Core) **February/March 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.

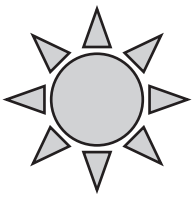
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1 Write down the number seventy one thousand and seventy two in figures.

Answer ..... [1]

2

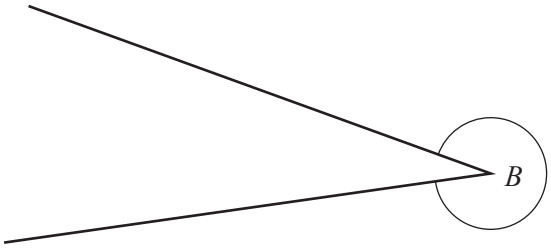


Write down the order of rotational symmetry of this shape.

Answer ..... [1]

---

3 Measure the reflex angle at B.



Answer ..... [1]

---

4 Work out $\frac{4}{9}$ of 153.

Answer ..... [1]

---

5 1 euro = \$1.234 .

Change 155 euros into dollars.

Answer \$ ..... [1]

---

6 **(a)** Write $\frac{4500}{5500}$ as a fraction in its simplest form.

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

(b) Write 0.73 as a fraction.

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

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7 The probability that Raju arrives on time at school is 0.72 .

(a) Write down the probability that he will **not** arrive on time.

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

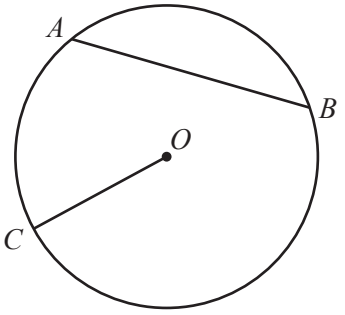
(b) Raju attends school on 200 days.

Work out the expected number of days he will arrive on time.

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

---

8 The diagram shows a circle, centre O.
A, B and C are points on the circumference.



NOT TO SCALE

Write down the mathematical name of the straight line

(a) OC,

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

(b) AB.

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

---

9 The point P has co-ordinates (2, –5) and $\overrightarrow{PQ} = \begin{pmatrix} 6 \\ -7 \end{pmatrix}$.

(a) Write down the co-ordinates of Q.

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

(b) Write $4\overrightarrow{PQ}$ as a column vector.

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

---

10 Find the lowest common multiple (LCM) of 24 and 32.

Answer ..... [2]

---

11 The volume, V, of a cylinder with radius r and height h is $V = \pi r^2 h$.

Calculate the volume of a cylinder with radius 7 cm and height 8 cm.

Answer ..... cm^3 [2]

---

12 \$760 is invested for 3 years at a rate of 4.5% per year simple interest.

Work out the total interest at the end of the 3 years.

Answer \$ ..... [2]

---

13 **(a)** Simplify

(i) x^0,

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

(ii) $m^4 \times m^3$.

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

(b) Solve $5x^3 = 40$.

Answer(b) $x =$ ..... [1]

---

14 Ahmed, Batuk and Chand share \$1000 in the ratio 8 : 7 : 5.

Calculate the amount each receives.

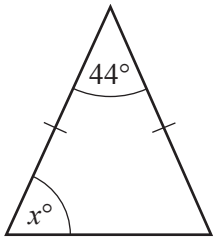
Answer Ahmed \$ .....

Batuk \$ .....

Chand \$ ..... [3]

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15 (a)



NOT TO SCALE

The diagram shows an isosceles triangle.

Find the value of x.

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

(b) (i) The exterior angle of a regular polygon is 24°.

Find the number of sides of this regular polygon.

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

(ii) Write down the mathematical name for a 5-sided polygon.

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

---

16 Without using your calculator, work out $2\frac{7}{9} \div \frac{5}{6}$.

Give your answer as a fraction in its lowest terms.
You must show each step of your working.

Answer ..... [4]

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[Turn over

17 6 8 14 36 47 50 130

From the list of numbers, write down one number for each of the following.

(a) An odd number. *Answer(a)* ..... [1]

(b) A square number. *Answer(b)* ..... [1]

(c) A factor of 70. *Answer(c)* ..... [1]

(d) A multiple of 26. *Answer(d)* ..... [1]

---

18 **(a)** Solve the simultaneous equations.
You must show all your working.

$$4x + 2y = 31$$
$$6x - 2y = 34$$

Answer(a) x = ...

y = ... [2]

(b) Factorise $14p^2 + 21pq$.

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

---

19 Idris has c toy cars.
Fadl has twice as many cars as Idris.
Baasim has three more cars than Fadl.

(a) Write down an expression, in terms of c, to complete each statement.

Fadl has ..... cars.

Baasim has ..... cars. [2]

(b) Write down an expression, in terms of c, for the total number of cars the three children have.
Give your answer in its simplest form.

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

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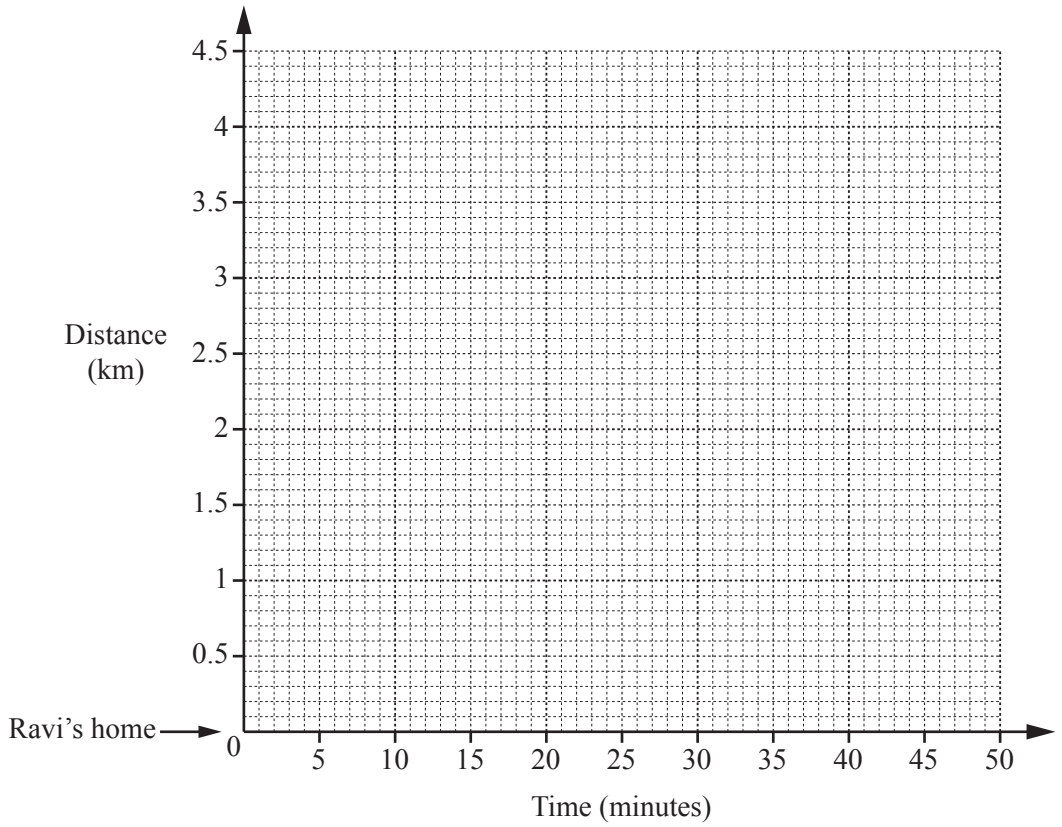
20 Ravi cycles from home to the bank.
It takes him 15 **minutes**, cycling at a constant speed of 14 km/h.

(a) Work out how far Ravi cycles from home to the bank.

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

(b) Ravi stays at the bank for 18 minutes.
He then cycles home at a constant speed for 12 minutes.

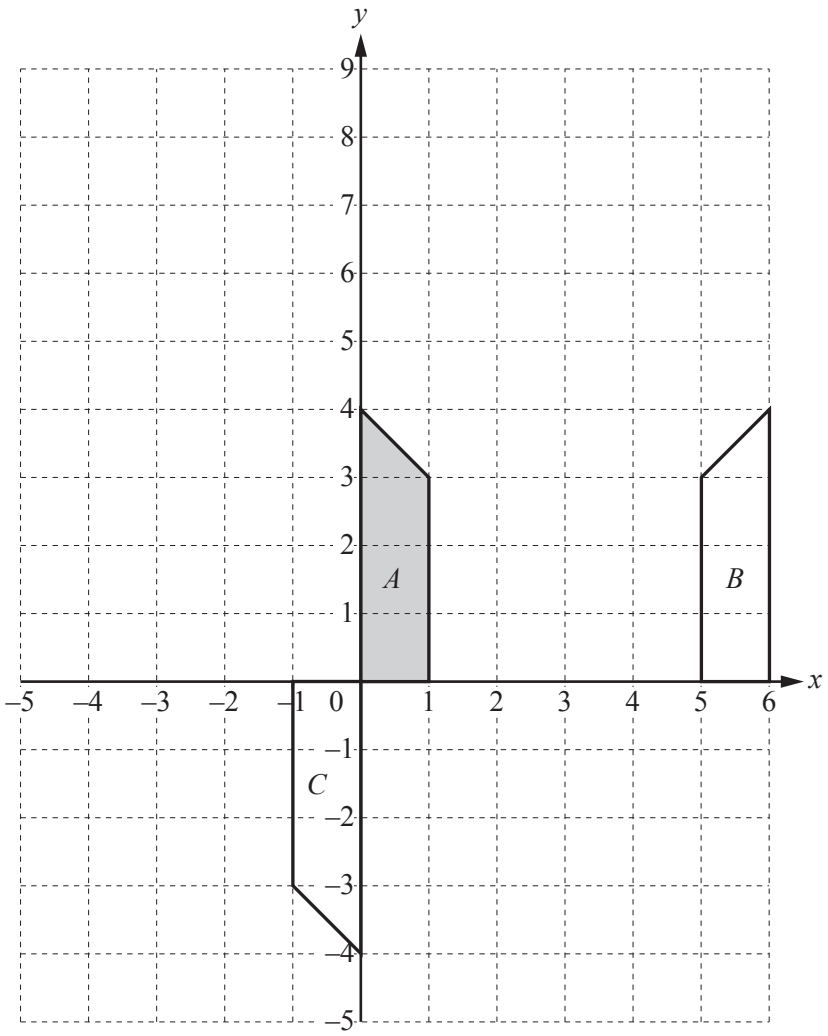
Draw the travel graph to show Ravi's journey since he left home.



[3]

Question 21 is printed on the next page.

21



Three shapes *A*, *B* and *C* are shown on the grid.

(a) Describe fully the **single** transformation that maps shape *A* onto

(i) shape *B*,

Answer(a)(i) .....

..... [2]

(ii) shape *C*.

Answer(a)(ii) .....

..... [3]

(b) Enlarge shape *A* by scale factor 2 from the centre (4, 0). [2]

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