Cambridge IGCSE

Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER | | | | | |

CANDIDATE NUMBER | | | | |

1155810176

MATHEMATICS **0580/12**

Paper 1 (Core) **May/June 2019**

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.

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

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[Turn over

1 Write 30 682 in words.

..... [1]

2 Change 4365 metres into centimetres.

..... cm [1]

3 Insert one pair of brackets to make this statement correct.

$$4 \times 6 - 2 + 1 = 17$$

[1]

4 The probability that Tommy has his calculator for his mathematics lesson is 0.4 .
There are 120 mathematics lessons in one year.

Work out an estimate of the number of mathematics lessons in one year that Tommy has his calculator.

..... [1]

5 **(a)** Subtract 123 from 1 million.

..... [1]

(b) Subtract 9 from 2.

..... [1]

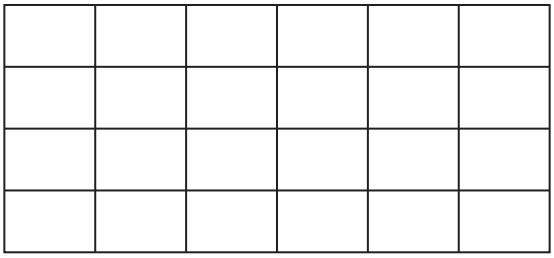
6 Complete each statement.

(a) A quadrilateral with only one pair of parallel sides is called a ..... . [1]

(b) An angle greater than 90° but less than 180° is called ..... . [1]

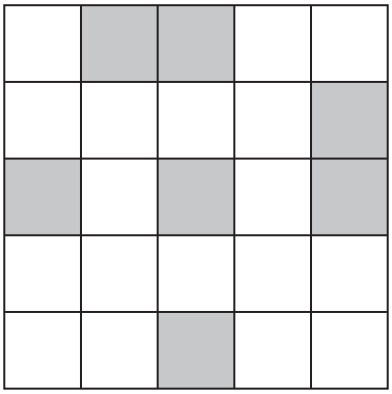
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7 **(a)** Shade five-eighths of this rectangle.



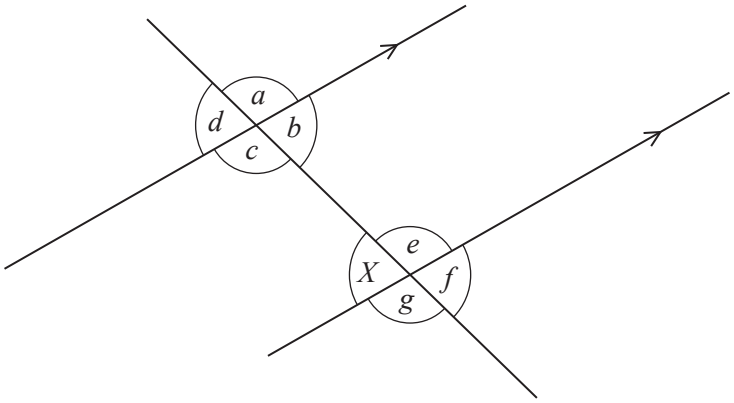
[1]

(b) Shade two more squares so that this grid has rotational symmetry of order 4.



[1]

8



The diagram shows two parallel lines and a straight line crossing them.

Write down, using letters from a to g,

(a) the angle that is alternate to angle X,

..... [1]

(b) the angle that is corresponding to angle X.

..... [1]

9 50 students each choose their favourite colour from a list of six colours.
The results for the colours Red, Orange, Yellow, Green and Blue are shown in the tally chart.

Complete the tally chart.

Favourite colour	Tally
Red	𝍸 𝍸 I
Orange	𝍸 𝍸 IIII
Yellow	𝍸 IIII
Green	𝍸
Blue	III
Purple	

[2]

10 **(a)** Write 0.047 883 correct to 2 significant figures.

..... [1]

(b) Write 0.005 27 in standard form.

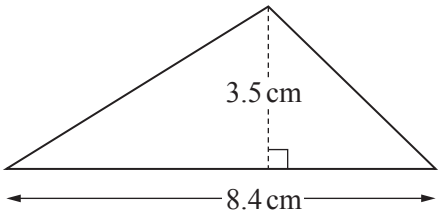
..... [1]

11 Find the highest common factor (HCF) of 90 and 48.

..... [2]

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12

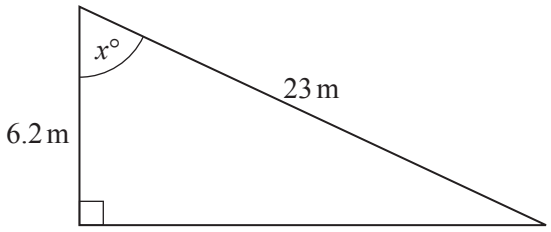


NOT TO SCALE

Calculate the area of this triangle.

..... cm^2 [2]

13



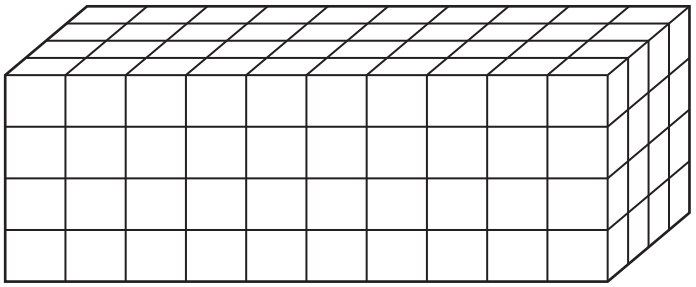
NOT TO SCALE

The diagram shows a right-angled triangle.

Calculate the value of x.

$x =$ ..... [2]

14 **(a)** The diagram shows a solid cuboid made of identical cubes.

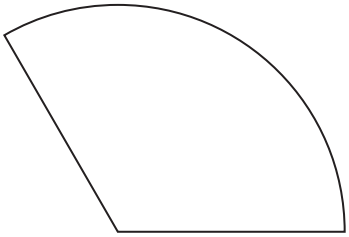


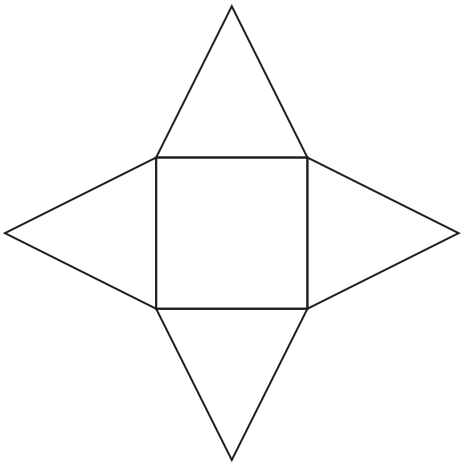
NOT TO SCALE

Work out the number of cubes in the cuboid.

..... [1]

(b) The diagram shows the nets of two solids.
Write down, under each net, the mathematical name for the solid.





.... [2]

15 A box contains 22 coloured pencils.
6 pencils are pink, 9 pencils are blue and 7 pencils are yellow.

(a) Write down the ratio pink pencils : not pink pencils.
Give your answer in its simplest form.

..... : ..... [2]

(b) A pencil is taken at random from the box.

Write down the probability that this pencil is green.

..... [1]

16 **(a)** Expand.

$x^2(x-7)$

..... [2]

(b) Factorise.

y^2+y

..... [1]

17 **(a)** Show that there is not a square number between 50 and 60.

[2]

(b) Write down a prime number between 50 and 60.

..... [1]

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18 A machine always takes 5 minutes to paint an 80 metre white line on a road.

(a) Work out the number of metres painted in 45 minutes.

..... m [1]

(b) Work out the number of minutes taken to paint a 2.8 km line.

..... min [2]

19 Simplify.

(a) $5m^2 \times 2m^3$

..... [2]

(b) $\left(x^8\right)^3$

..... [1]

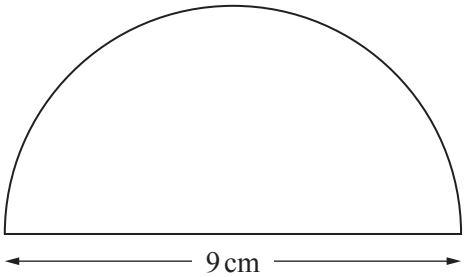
20 **Without using a calculator**, work out $2\frac{1}{4} \div \frac{3}{7}$.

You must show all your working and give your answer as a mixed number in its simplest form.

..... [3]

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21



NOT TO SCALE

The diagram shows a semicircle with diameter 9 cm.

Calculate the total perimeter of this semicircle.

..... cm [3]

22 Gerry and Alain run around a running track.

To run around the track once
- Gerry always takes 90 seconds
- Alain always takes 105 seconds.

They start together at the same point.

After how many minutes are they next together at that point?

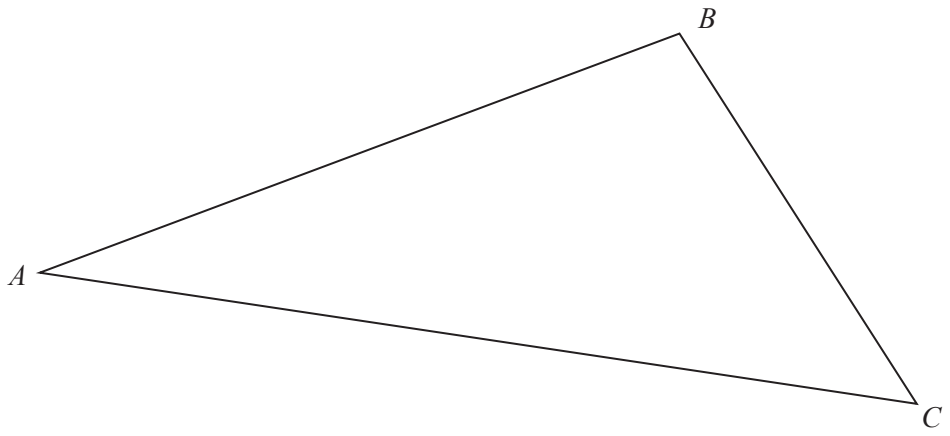
..... min [3]

23 Rearrange this formula to make x the subject.

$$5x^2 - 3y = 4y + 8$$

$x =$ ..... [3]

24



(a) (i) **Using a straight edge and compasses only**, construct the perpendicular bisector of AB.
Show all your construction arcs. [2]

(ii) **Using a ruler and compasses only**, construct the locus of points inside the triangle that are 4 cm from C. [1]

(b) Shade the region inside the triangle that is

- more than 4 cm from C

and

- closer to B than to A.

[1]

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