



# Cambridge IGCSE™

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**MATHEMATICS**

**0580/13**

Paper 1 (Core)

**May/June 2020**

**1 hour**

You must answer on the question paper.

You will need: Geometrical instruments

## INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- You should use a calculator where appropriate.
- You may use tracing paper.
- You must show all necessary working clearly.
- Give non-exact numerical answers correct to 3 significant figures, or 1 decimal place for angles in degrees, unless a different level of accuracy is specified in the question.
- For  $\pi$ , use either your calculator value or 3.142.

## INFORMATION

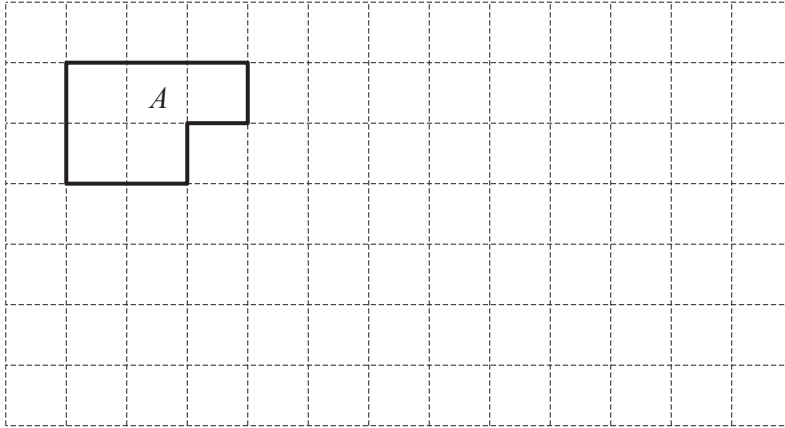
- The total mark for this paper is 56.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **12** pages. Blank pages are indicated.

- 1 Write six hundred and seven thousand and twenty-one in figures.

..... [1]

2



On the grid, draw a shape that is congruent to shape *A*.

[1]

- 3 Edelgard tries to calculate  $\frac{68+18}{9-5}$ .

(a) She types into her calculator  $68 + 18 \div 9 - 5$ .

Explain why this does not give Edelgard the correct answer.

..... [1]

(b) Work out the correct answer to  $\frac{68+18}{9-5}$ .

..... [1]

- 4 A train from Woodton to Northley takes 6 hours 25 minutes.  
The train leaves Woodton at 19 46.

Work out the time the train arrives at Northley.

..... [1]

5 Write down the number that is 7 more than  $-38$ .

..... [1]

6 Simplify.

$$5w + 3h - 7w + 8h$$

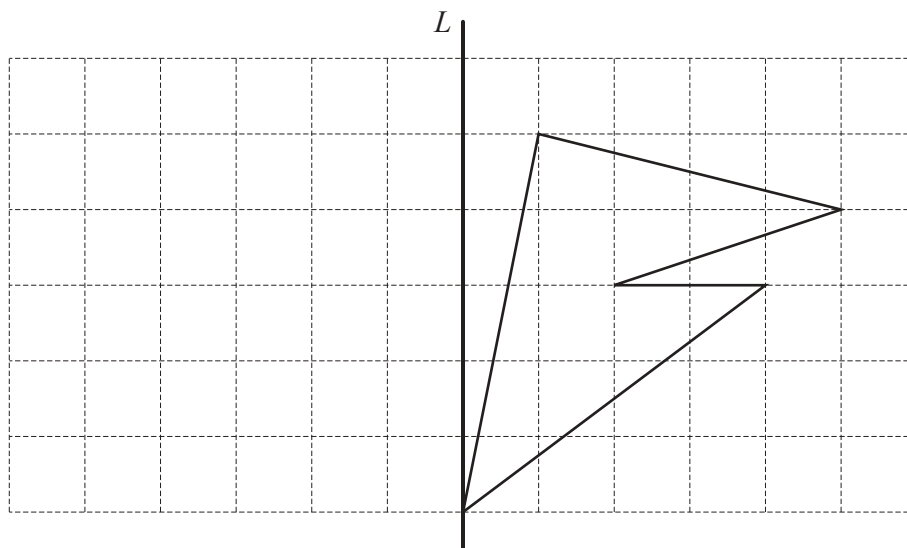
..... [2]

7 (a) Write down the mathematical name of a quadrilateral that has

- rotational symmetry of order 1
- and
- only one line of symmetry.

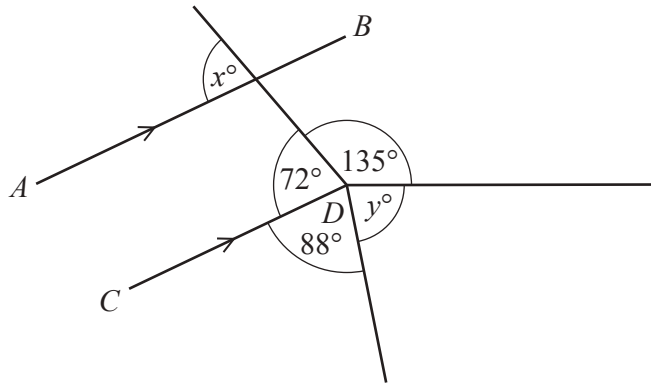
..... [1]

(b) Reflect the shape in line  $L$ .



[2]

8



NOT TO SCALE

In the diagram,  $AB$  is parallel to  $CD$ .

- (a) Find the value of  $x$ .  
Give a geometrical reason for your answer.

$x = \dots\dots\dots$  because  $\dots\dots\dots$  [2]

- (b) Work out the value of  $y$ .  
Give a geometrical reason for your answer.

$y = \dots\dots\dots$  because  $\dots\dots\dots$  [2]

9

- 32      33      34      35      36      37      38      39

From this list of numbers, write down

- (a) a multiple of 8, ..... [1]

- (b) a square number, ..... [1]

- (c) a prime number. ..... [1]

- 10 (a) A circular garden has diameter 11.4 m.

Draw the garden accurately, using a scale of 1 cm represents 1.5 m.

Scale: 1 cm to 1.5 m

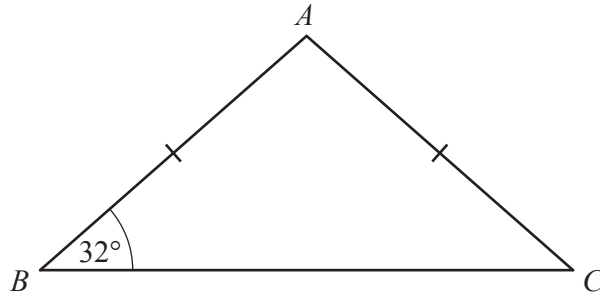
[2]

- (b) On a map, the distance between two towns is 9.6 cm.  
The scale of the map is 1 : 50 000.

Work out the actual distance between the two towns in kilometres.

..... km [2]

11

NOT TO  
SCALE

Triangle  $ABC$  is isosceles.  
Angle  $ABC = 32^\circ$  and  $AB = AC$ .

Find angle  $BAC$ .

Angle  $BAC = \dots\dots\dots$  [2]

12 A bag contains yellow balls, pink balls and green balls only.

The ratio yellow balls : pink balls : green balls = 7 : 3 : 5.  
There are 42 yellow balls in the bag.

Work out the total number of balls in the bag.

$\dots\dots\dots$  [2]

13 On any day, the probability that Marcus will get a seat on the school bus is 0.93 .

(a) Write down the probability that he will **not** get a seat on the school bus today.

$\dots\dots\dots$  [1]

(b) There are 200 school days in a year.

Work out the expected number of days in a year that Marcus will **not** get a seat.

$\dots\dots\dots$  [1]

14 Simplify.

(a)  $p^2 \times p^4$

..... [1]

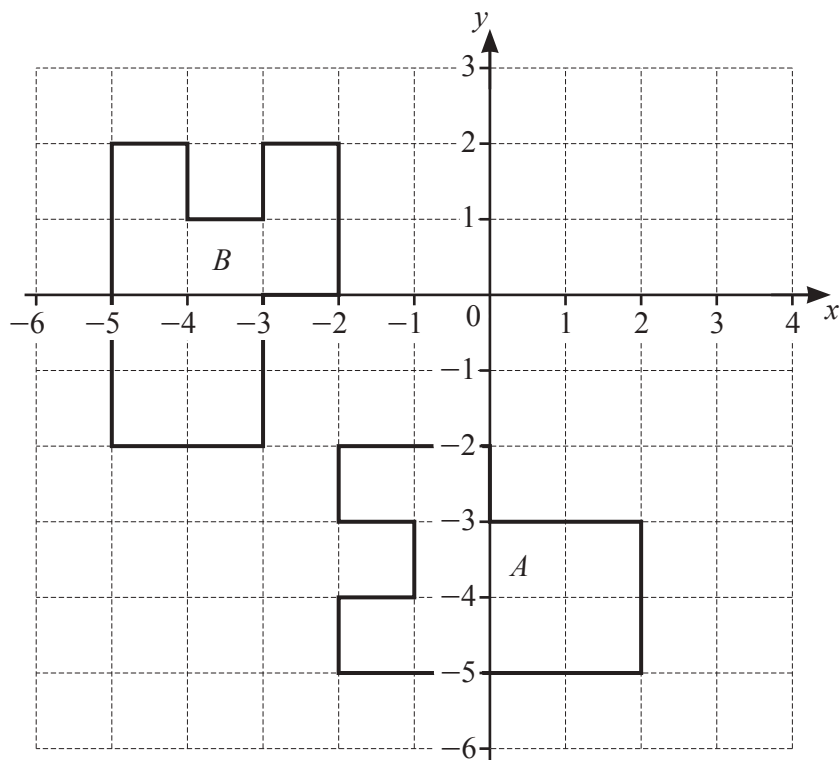
(b)  $m^{15} \div m^5$

..... [1]

(c)  $(k^3)^5$

..... [1]

15



Describe fully the **single** transformation that maps shape *A* onto shape *B*.

.....

..... [3]

- 16 **Without using a calculator**, work out  $3\frac{1}{4} - 2\frac{2}{3}$ .

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

..... [3]

- 17 A chef buys some cheese from France.  
200 g of cheese costs 3.45 euros.  
The exchange rate is \$1 = 0.84 euros.

Work out the maximum mass of cheese the chef can buy with \$150.  
Give your answer in kilograms, correct to 1 decimal place.

..... kg [4]



- 18 Sonia wants to invest \$5000 for 6 years.

Bank A pays compound interest at a rate of 3.5% per year.

Bank B increases the \$5000 by 22% at the end of 6 years.

Which bank will give Sonia the most money at the end of 6 years and by how much?  
You must show all your working.

Bank A

Bank B

Bank ..... will give \$ ..... more money. [5]

- 19 By rounding each number correct to 1 significant figure, estimate the value of

$$\frac{71 \times 32.4}{4.8^2}$$

You must show all your working.

..... [2]

- 20 Des thinks of two numbers.  
The sum of his two numbers is  $-6$ .  
The difference between his two numbers is  $62$ .

Find the two numbers.

..... and ..... [4]

- 21 A solid cylinder has radius  $3$  cm and height  $4.5$  cm.

Calculate the **total** surface area of the cylinder.

.....  $\text{cm}^2$  [4]



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