

## **Cambridge IGCSE**<sup>™</sup>

CANDIDATE NAME					
CENTRE NUMBER			CANDIDATE NUMBER		



MATHEMATICS 0580/12

Paper 1 (Core) February/March 2023

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. Any blank pages are indicated.

1	Write the number twenty-five million in figures.		
			[1]
2	(a) Write 0.7 as a fraction.		
			[1]
	<b>(b)</b> Write $\frac{13}{20}$ as a percentage.		
			[1]
3	-7 12 -3 2 8 -6 15 -4	-8	
	From the list of numbers, find		
	(a) all the numbers which are less than $-5$		
			[1]
	<b>(b)</b> the product of the largest number and the smallest number.		
			Г17
			[+]
4	An exam starts at 11 50 and lasts for $2\frac{1}{4}$ hours.		
	Work out the time that the exam finishes.		
			[1]
5	Write 56.17345 correct to 1 decimal place.		
			Г11
			[1]
6	Work out the number of seconds in 5 hours.		
		S	[2]

7	12	15	27	29	91	93
,	1 4	1 5	41	4)	<i>)</i> 1	) )

From the list of numbers, write down

(a) a cube number

.....[1]

(b) a prime number.

.....[1]

$$\mathbf{8} \qquad \mathbf{v} = \begin{pmatrix} -1\\3 \end{pmatrix} \qquad \mathbf{y} = \begin{pmatrix} 2\\5 \end{pmatrix}$$

Find

(a) v-y

 $\left(\begin{array}{c} \\ \end{array}\right) \qquad [1]$ 

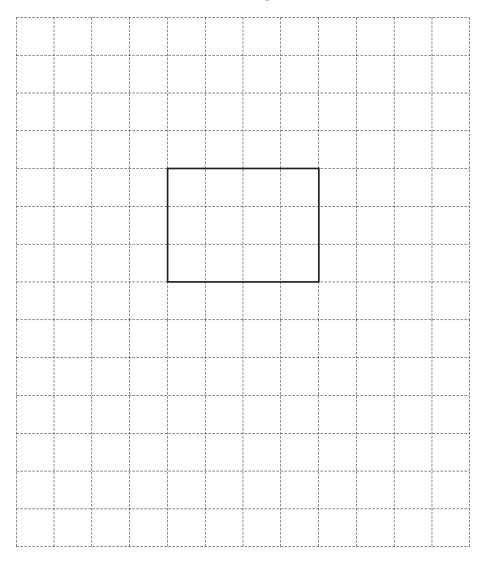
**(b)** 2**v**.

9 A suit costs 6500 rupees.

Calculate the cost of the suit in dollars when the exchange rate is 1 rupee = \$0.013.

\$ ......[1]

10 The diagram shows one face of a cuboid on a 1 cm<sup>2</sup> grid.



The cuboid has a volume of 24 cm<sup>3</sup>.

Complete a net of this cuboid.

[3]

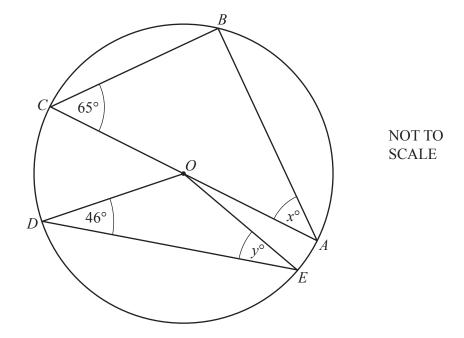
	5	
11	The median of six numbers is 61. Five of the numbers are 24, 43, 58, 71 and 85.	
	Work out the sixth number.	
		[1]
12	Work out the size of one interior angle of a regular 9-sided polygon.	
		[2]
13	8	
	On the Venn diagram, shade the region $A \cap B$ .	[1]

14 Factorise completely.

$$8g-2g^2$$

.....[2]

15



The diagram shows a circle, centre O, with diameter AC. A, B, C, D and E lie on the circumference of the circle.

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

	1	F 4	٠.
v =	hecause	17	<i>,</i> I
$_{\Lambda}$ $-$	 occause	14	- 1

**(b)** Find the value of *y*. Give a reason for your answer.

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

16	Without using a calculator, work out	$\frac{4}{7} \div 8$ .
----	--------------------------------------	------------------------

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

.....[2]

17 A school records how many calculators it sells each week for 40 weeks. The results are shown in the table.

Number of calculators	Frequency
0	14
1	12
2	6
3	5
4	0
5	2
6	1

Work out the mean number of calculators the school sells each week.

.....[3]

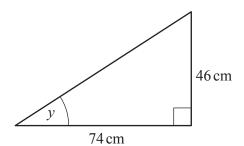
18	The mass, $m  \text{kg}$ , of a bag of sand is 12 kg, correct to the nearest	st kilogram.	
	Complete the statement about the value of $m$ .		
		≤ <i>m</i> <	[2]
19	Qianna invests \$3000 at a rate of 4% per year compound inter	est.	
	Calculate the value of her investment at the end of 6 years.		
		\$	[2]
20	Solve.		
20	$\frac{25-2u}{3}=2$		
		<i>u</i> =	[2]
21	Calculate $0.3^2$ .		
21	Give your answer in standard form.		
			[2]
22	The much chility of pessing a duiving test is 0.26		
22	The probability of passing a driving test is 0.36. 600 people take this driving test.		
	Work out the expected number of these people that will pass.		
			[1]

23 Solve the simultaneous equations. You must show all your working.

$$3x - 2y = 19$$
$$x + y = 3$$

x =	
v =	 [3]

24



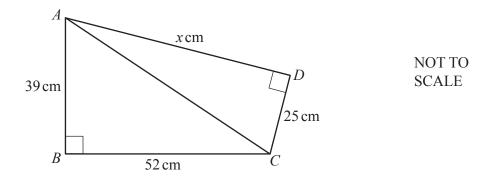
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The diagram shows a right-angled triangle.

Show that angle y is 31.9°, correct to 1 decimal place.

[2]

25



The diagram shows two right-angled triangles, ABC and ACD.

Work out the value of x.

$$x =$$
 [4]

26	A ci	ircle has an area of $25\pi  \mathrm{cm}^2$ .
	(a)	Work out the circumference of the circle. Give your answer in terms of $\pi$ .
		cm [3]
	(b)	Two of the circles are used as the ends of a cylinder, with height $h \text{ cm}$ . The total surface area of the cylinder is $170\pi \text{ cm}^2$ .
		Work out the value of $h$ .
		$h = \dots [3]$

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