

## **Cambridge International Examinations**

Cambridge International General Certificate of Secondary Education

CANDIDATE NAME			
CENTRE NUMBER		CANDIDATE NUMBER	
MATHEMATICS	<u> </u>		0590/44

MATHEMATICS 0580/11

Paper 1 (Core) May/June 2018

1 hour

Candidates answer on the Question Paper.

Electronic calculator Geometrical instruments Additional Materials:

Tracing paper (optional)

## **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  $\pi$ , 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.



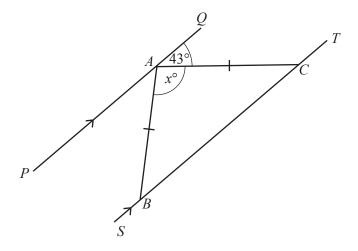


1	Write 4647 correct to the nearest 100.	[1]
2	Write 0.007 as a fraction.	
3	The diagram shows a quadrilateral.	[1]
	95°) 47°	NOT TO SCALE
	Find the value of $x$ .	
		<i>x</i> =[1]
4	The <i>n</i> th term of a sequence is $5n - 3$ .	
	Write down the first three terms of the sequence.	
5	(a) Write 0.00268 correct to 2 significant figures.	, [1]
S	(a) Write 0.00206 correct to 2 significant figures.	[1]
	<b>(b)</b> Write 0.0000387 in standard form.	
		[1]

6 Find the value of 7x + 3y when x = 12 and y = -6.

.....[2]

7



NOT TO SCALE

The diagram shows two parallel lines PAQ and SBCT. AB = AC and angle  $QAC = 43^{\circ}$ .

Find the value of *x*.

 $x = \dots [2]$ 

8 Solve the equation 8x - 5 = 7.

 $x = \dots [2]$ 

9	(a) Change 6.54 kilometres into metres.		
	<b>(b)</b> Change 7850 cm <sup>3</sup> into litres.		m [1]
			litres [1]
10	The height, $h$ metres, of a boy is 1.72 m, correct to the nearest centimetre. Complete this statement about the value of $h$ .		
		≤ h <	[2]
11	Expand and simplify. $6(2y-3) - 5(y+1)$		
			[2]
12	$\mathbf{g} = \begin{pmatrix} 2 \\ 5 \end{pmatrix} \qquad \mathbf{h} = \begin{pmatrix} -3 \\ 4 \end{pmatrix}$ Write as a single vector		
	(a) $\mathbf{g} + \mathbf{h}$ ,		
			[1]
	(b) -h.		[1]

13	Work out the	lowest common	multiple	(LCM)	of 18	and 21
IJ	WOIR Out the	10 W CSt COIIIIIIOII	mumpic	LCIVI	, 01 10	anu Zi.

[2
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14 Work out the size of one exterior angle of a regular octagon.



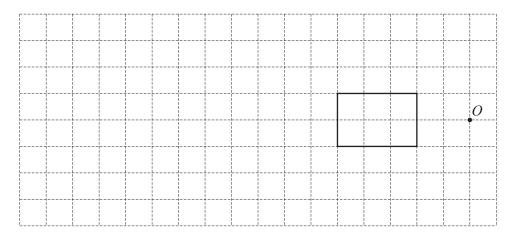
15 (a) Calculate  $\sqrt{2.38 + 6.4^2}$ , writing down your full calculator display.



**(b)** Write your answer to **part (a)** correct to 4 decimal places.



16 Enlarge the rectangle using a scale factor of 3 and centre of enlargement O.



[2]

17	(a)	A box cont A pen is ch			I pens and 8 g the box.	green pens of	nly.		
		Find the pr	obability th	at this pen	is green.				
									[1]
	(b)	A cube has This cube i	only one o	f its six fac times.	es painted ye	llow.			
		Work out the	he expected	l number o	f times that it	lands on the	e yellow fa	ace.	
									[1]
18	(a)	Simplify.	. 3. 4						
		(	$(x^3)^4$						
			1						[1]
	(b)	4 <sup>w</sup> =							
		Find the va	alue of w.						
								<i>w</i> =	[1]
									[+]
19		π	$3^{-2}$	$3\frac{4}{7}$	33.3%	$\sqrt{3}$	0.3	3 <sup>999</sup>	
	Froi	m this list, w	rite down t	he two nun	nbers that are	irrational.			
								, ,	[2]

20	<b>(a)</b>	Here	is a	descri	ntion	of a	quadrilateral	
40	(a)	11010	15 a	ucscm	nnon	or a	quaumatchan	

It has 4 right angles.

It has 2 lines of symmetry.

It has rotational symmetry of order 2.

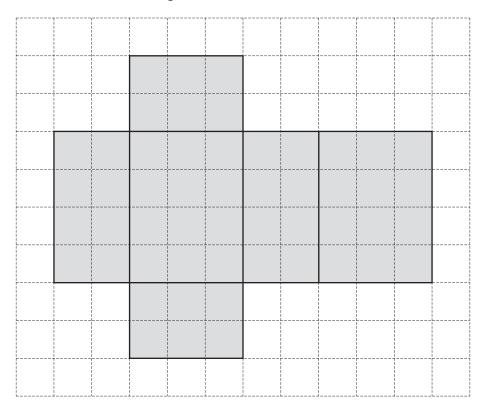
Write down the mathematical name of this quadrilateral.

 1	1
 1	ı

**(b)** Write down two geometrical properties of a parallelogram.

4	
1.	***************************************

21 The net of a solid is drawn on a 1 cm<sup>2</sup> grid.



(a) Write down the name of the solid made from this net.

																																					1	Г	1	•	
•	•	•	•	•	•	•					•	•	•	•	•	•	•	•	•	•	•	•		 •	•	•	•	•	•	•	•	•	•	•					1		

**(b)** Work out the volume of this solid.

	3	F 2 7
 	 .cm <sup>3</sup>	121

22	Factorise completely.
	(a) $10 + 16w$
	(b) $12tx - 8t^2$
	[2]
	3 6
23	Without using your calculator, work out $1\frac{3}{4} \times \frac{6}{35}$ .
23	Without using your calculator, work out $1\frac{3}{4} \times \frac{6}{35}$ . You must show all your working and give your answer as a fraction in its simplest form.
23	. 55
23	. 55
23	. 55
23	. 55
23	. 55

.....[3]

Solve the simultaneous equations.	
You must show all your working.	
	3x + 10y = 10
	5x - 4y = 1
	*

x =	
v =	[4

25 40 people were asked how many times they visited the cinema in one month. The table shows the results.

Number of cinema visits	0	1	2	3	4	5	6	7
Frequency	5	5	6	6	7	3	6	2

Fr	equer	ncy	5	5	6	6	7	3	6	2	
(a)	(i)	Find the mode.									
	(ii)	Calculate the mean	1.								[1
											[3
<b>(b)</b>		ar wants to show the									
	Calo	culate the sector ang	le for the	people v	vho visite	ed the cin	ema 5 tin	nes.			
											[2

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