

Cambridge International Examinations

Cambridge International General Certificate of Secondary Education

IGOOL			
CANDIDATE NAME			
CENTRE NUMBER		CANDIDATE NUMBER	
MATHEMATICS			0580/11
Paper 1 (Core)			May/June 2015
			1 hou
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.





1		ere are 31 days in January. Luary 21st 2015 was a Wednesday.	
	Wh	at day of the week was February 8th 2015?	
			Answer[1]
2	The	temperature in Berlin is –7 °C and the temperature i	n Istanbul is −3 °C.
	(a)	Write down how many degrees colder it is in Berlin	n than it is in Istanbul.
			Answer(a)°C [1]
	(b)	Sydney is 23 degrees warmer than Berlin.	
		Write down the temperature in Sydney.	
			<i>Answer(b)</i> °C [1]
3	(a)	A mass of 300 kg is increased by 8%.	
		Work out the increase in mass.	
			Answer(a) kg [1]
	(b)	Nelson scores 27 out of 40 in a history test.	
		Work out his score as a percentage.	
			Answer(b) % [1]

4	The total mass of 38 spoons is 1824 g.	
	Work out the mass of 53 spoons.	
	Answer	g [2
5	Prince Charming invests \$3000 for 5 years at a rate of 4% per year simple interest.	
	Calculate the total interest he will receive.	
	Answer \$	[2
6	Using a ruler and compasses only, construct a triangle with sides 5 cm, 6 cm and 7 cm.	
	The 5 cm side has been drawn for you.	
		[2

7

equilateral triangle	square
regular pentagon	parallelogram
regular hexagon	circle

From the list write down

(a) the shape which has more than 6 lines of symmetry,

(b) the shape which has both acute and obtuse interior angles.

8

$$\mathbf{a} = \begin{pmatrix} 3 \\ 5 \end{pmatrix} \qquad \mathbf{b} = \begin{pmatrix} -8 \\ 7 \end{pmatrix}$$

Write each of the following as a single vector.

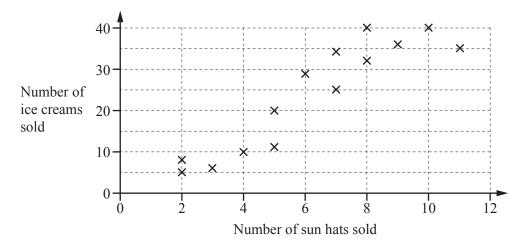
(a) 3a

$$Answer(a) \qquad \left(\qquad \right) \qquad [1]$$

(b) a-b

$$Answer(b) \qquad \left(\qquad \right) \qquad [1]$$

9 The scatter diagram shows the number of sun hats and ice creams sold by a shop each day for two weeks.



(a) Write down the type of correlation shown by the diagram.

Answer(a)	T11

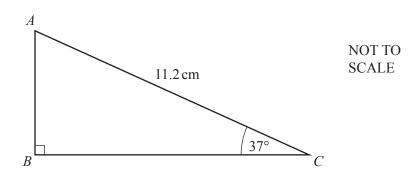
(b) Describe the relationship between the number of sun hats sold and the number of ice creams sold.

Answer(b)	•••••	 	 •••••	•••••	• • • • • • • • • • • • • • • • • • • •	 	•••••	
		 	 			 		[1]

10 Simplify. $6uw^{-3} \times 4uw^6$

Answer		[2]
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11



Calculate AB.

$Answer\ AB =$		cm	[2]
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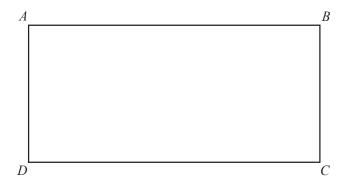
12 (a) Write down the co-ordinates of the point where the line y = 3x + 5 crosses the y-axis.

(b) Write down the equation of a line that is parallel to the line y = 3x + 5.

13	(a)	Factorise. $3w^2 - 2w$		
			Answer(a)	[1]
	(b)	Expand and simplify. $x(2x+3) + 5(x-7)$		
			Answer(b)	[2]
14	Six	donkeys are each given two 5 ml spoons of medici	ne three times each day.	
	Calo	culate the number of whole days a 2 litre bottle of r	nedicine will last.	
			Answer	days [3]
15	A cı	uboid has volume 288 cm ³ .		
	(a)	The cuboid has length 12 cm and width 5 cm.		
		Calculate the height of the cuboid.		
			Answer(a)	cm [2]
	(b)	1 cm ³ of the cuboid has a mass of 4 g.		
		Work out the mass of the cuboid.		
			Answer(b)	g [1]

16	Without using a calculator, work out	$1\frac{4}{5} \div \frac{3}{7}$.	
	Show all your working and give your an		
	Show an your working and give your an	iswor as a maction in its lowest terms.	
		Answer	[3]
17	(a) Write 82 600 in standard form.		
	6.02×10 ⁸ 5×10 ⁶	Answer(a)	[1]
	(b) Calculate $\frac{6.02 \times 10^8 - 5 \times 10^6}{3 \times 10^6}$.		
	Give your answer in standard form.		
		Answer(b)	[2]
18	Solve the equation. $5(3y-2) = 35$		
		Answer $y = \dots$	[3]

	19	In this	auestion	use a	ruler and	compasses
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Shade the region inside rectangle ABCD that is

• more than 2 cm from AD and

• more than 4 cm from *B*.

[3]

20 (a) 2, 3, 6, 11, 18, ...

(i) Write down the next two terms in this sequence.

Answer(a)(i) [2]

(ii) Describe, in words, the rule for continuing this sequence.

(b) The *n*th term of a different sequence is 4n - 3.

Work out the first three terms in this sequence.

Answer(b) [1]

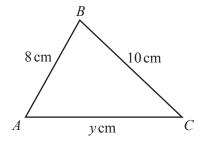
21	(a)	Write 30	as a	product	of its	prime	factors.
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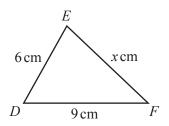
Answer(a) [2]		
	Answer(a).	 [2]

(b) Find the lowest common multiple (LCM) of 30 and 45.

Answer(b)		[2]
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NOT TO SCALE

Triangle ABC is similar to triangle DEF.

Calculate the value of

(a) x,

$$Answer(a) x =$$
 [2]

(b) *y*.

$$Answer(b) y = \dots [2]$$

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