

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS International General Certificate of Secondary Education

CANDIDATE NAME					
CENTRE NUMBER		CANDIDATE NUMBER			
MATHEMATICS			0580/11		
Paper 1 (Core)		Octo	ber/November 2013		
			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 a pencil for any diagrams or graphs.

Do not use staples, paper clips, highlighters, 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 10 printed pages and 2 blank pages.



For

Examiner's Use

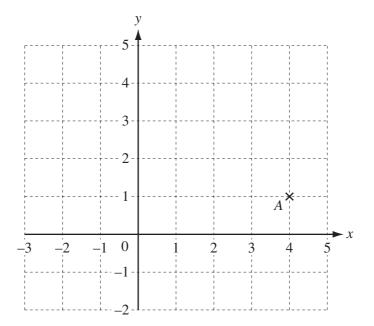
Write in figures the number one hundred and twenty one thousand and forty two.					
Answer[1]					
Write down the number of centimetres in $2\frac{1}{2}$ metres.					
Answer cm [1]					
Work out 72 cents as a percentage of 83 cents.					
Answer % [1]					
There were 41 524 people at a football match.					
(a) Write 41 524 correct to the nearest thousand.					
Answer(a) [1]					
(b) One quarter of the 41 524 people left before the end of the game.					
Find the number of people who left before the end of the game.					
Answer(b)[1]					
(a) Write down the order of rotational symmetry of this shape.					
Answer(a) [1]					
(b) Draw the lines of symmetry on this shape.					
[1]					

0580/11/O/N/13

© UCLES 2013



For Examiner's Use



(a) Write down the co-ordinates of point A.

Angware	(a	۱	(`	Г1	1
Answer	а	, ,	(,	.)	1	ı

(b) On the grid, plot the point (-1, 3).

[1]

7 Simplify the following expression.

$$5a - 3b - 2a - b$$

Answer [2]

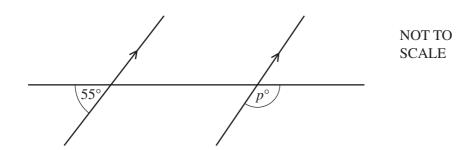
8 Calculate $\frac{5.27 - 0.93}{4.89 - 4.07}$

Give your answer correct to 4 significant figures.

Answer [2]

9

For Examiner's Use



Find the value of p.

$Answer p = \dots$		[2]
--------------------	--	-----

10 Calculate 17.5% of 44 kg.

- 11 Find the value of
 - (a) 9^4 ,

(b) 6^0 .

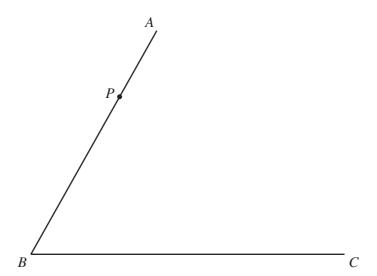
For Examiner's Use

13 Yim knows one angle of an isosceles triangle is 48°. He says one of the other angles must be 66°. Explain why Yim is wrong. Answer	12	Solve the equation. $5-2$	x = 3x - 19		
13 Yim knows one angle of an isosceles triangle is 48°. He says one of the other angles must be 66°. Explain why Yim is wrong. Answer					
13 Yim knows one angle of an isosceles triangle is 48°. He says one of the other angles must be 66°. Explain why Yim is wrong. Answer					
13 Yim knows one angle of an isosceles triangle is 48°. He says one of the other angles must be 66°. Explain why Yim is wrong. Answer					
He says one of the other angles must be 66°. Explain why Yim is wrong. Answer SPACES One of the 6 letters is taken at random. (a) Write down the probability that the letter is S. Answer(a)				$Answer x = \dots$	[2]
Answer	13				
One of the 6 letters is taken at random. (a) Write down the probability that the letter is S. Answer(a)		Explain why Yim is wrong			
One of the 6 letters is taken at random. (a) Write down the probability that the letter is S. Answer(a)					
One of the 6 letters is taken at random. (a) Write down the probability that the letter is S. Answer(a)					
One of the 6 letters is taken at random. (a) Write down the probability that the letter is S. Answer(a)					
One of the 6 letters is taken at random. (a) Write down the probability that the letter is S. Answer(a)		Answer			
One of the 6 letters is taken at random. (a) Write down the probability that the letter is S. Answer(a)					[2]
(a) Write down the probability that the letter is S. Answer(a)	14		S P A C		
Answer(a)		One of the 6 letters is taken	at random.		
(b) The letter is replaced and again a letter is taken at random. This is repeated 600 times.How many times would you expect the letter to be S?		(a) Write down the probab	pility that the letter is S.		
(b) The letter is replaced and again a letter is taken at random. This is repeated 600 times.How many times would you expect the letter to be S?					
(b) The letter is replaced and again a letter is taken at random. This is repeated 600 times.How many times would you expect the letter to be S?					
This is repeated 600 times. How many times would you expect the letter to be S?				Answer(a)	[1]
				random.	
Answer(b)[How many times wou	ld you expect the letter to b	e S?	
Answer(b)[
Answer(b) [
				Answer(b)	[1]

For

Examiner's Use

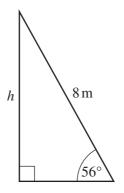
15	The length, $p \text{cm}$, of a car is 440 cm, correct to the nearest 10 cm.				
	Complete the statement about p .				
	$Answer \dots \leq p \leq \dots [2]$				
1.6					
16	8 15 7 8 7 15 4 13 4 3 10 2 9 4 5				
	(a) Write down the mode.				
	Answer(a) [1]				
	(b) Work out the median.				
	Answer(b)[2]				
17	Bruce invested \$800 at a rate of 3% per year simple interest.				
	Calculate the total amount he has after 6 years.				
	Answer \$ [3]				



- (a) On the diagram above, draw a line perpendicular to the line AB, through the point P. [1]
- (b) Using a straight edge and compasses only, construct the locus of points that are equidistant from A and from C. [2]

19 The diagram shows a ladder of length 8 m leaning against a vertical wall.

For Examiner's Use



NOT TO SCALE

Use trigonometry to calculate *h*. Give your answer correct to 2 significant figures.

20
$$\mathbf{a} = \begin{pmatrix} 4 \\ 3 \end{pmatrix}$$
 $\mathbf{b} = \begin{pmatrix} -2 \\ 0 \end{pmatrix}$ $\mathbf{c} = \begin{pmatrix} 1 \\ -5 \end{pmatrix}$

Find

(a) 4a,

Answer(a) $\left(\right)$ [2]

(b) $\mathbf{b} - \mathbf{c}$.

 $Answer(b) \left(\begin{array}{c} \\ \end{array} \right) [2]$

		9	9				
21	Do not use a calculator in this question and show all the steps of your working.						
	Giv	e each answer as a fraction in its lowest terms.					
	Woı	k out.					
	(a)	$\frac{3}{4} - \frac{1}{12}$					
	(b)	$2\frac{1}{2} imes \frac{4}{25}$	Answer(a)[2]				
			Answer(b) [2]				
22	(a)	Factorise completely. $6ab - 24bc$					
	(b)	Rearrange the following formula to make m th	Answer(a) [2] e subject.				
		$j = \frac{m}{n} -$	k				

For Examiner's Use

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

For

Examiner's Use

23	(a)	Her	e are the first four te	rms of a se	quence.				
				27	23	19	15		
		(i)	Write down the nex	at term in tl	ne sequen	ice.			
						An	swer(a)(i)		[1]
		(ii)	Explain how you w	orked out	your ansv	ver to p	art (a)(i).		
									547
			<i>Answer(a)</i> (ii)		•••••	•••••			[1]
	(b)	The	nth term of a difference	ent sequenc	ce is $4n -$	- 2 .			
		Wri	te down the first thre	ee terms of	this sequ	ence.			
						Answ	er(b)	,	[1]
	(c)	Her	e are the first four te	rms of ano	ther sequ	ence.			
				-1	2	5	8		
		Wri	te down the <i>n</i> th term	of this sec	quence.				
							Answer(c)		[2]

BLANK PAGE

BLANK PAGE

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included the publisher will be pleased to make amends at the earliest possible opportunity.

University of Cambridge International Examinations is part of the Cambridge Assessment Group. Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.