

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS International General Certificate of Secondary Education

CANDIDATE NAME					
CENTRE NUMBER			CANDIDATE NUMBER		

MATHEMATICS 0580/13

Paper 1 (Core) May/June 2012

1 hour

Candidates answer on the Question Paper.

Additional Materials: Electronic calculator

Electronic calculator Geometrical instruments
Mathematical tables (optional) 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 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.



1	Write $\frac{2}{5}$ as a percentage.	
		Answer%[1]
2	Change 5.2 square metres into square centimetres.	
		Answer cm ² [1]
3	Mohinder changes \$240 into Rupees. The exchange rate is \$1 = 46.2875 Rupees. Calculate how many Rupees he receives.	
		Answer Rupees [1]
4	(a) Write down the next prime number after 47.	
	(b) Write down the next square number after 49.	Answer(a)[1]
		Answer(b)[1]

5 < > =

For Examiner's Use

Choose one of these symbols to make each statement correct.

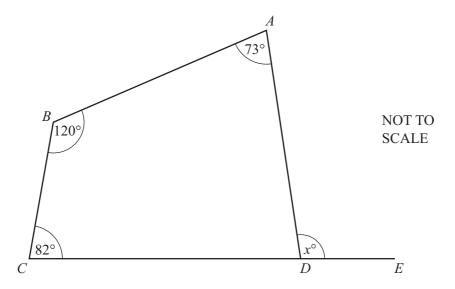
(b)
$$(-5)^2$$
 25 [1]

6 Hans invests \$750 for 8 years at a rate of 2% per year simple interest.

Calculate the interest Hans receives.



7



The diagram shows a quadrilateral *ABCD*. *CDE* is a straight line.

Calculate the value of x.

$$Answer x = [2]$$

O	XX71-	4
א	Work	OH

(a)
$$\binom{5}{3} - \binom{6}{-2}$$
,

Answer(a) [1]

(b)
$$5\binom{3}{-4}$$
.

Answer(b) [1]

- 9 Simplify
 - (a) a^0 ,

Answer(a) [1]

(b) $b^3 \times b^{-5}$.

Answer(b) [1]

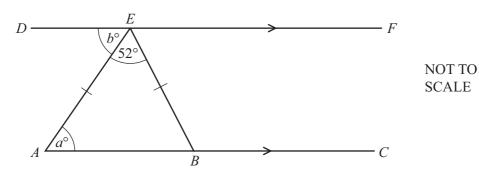
During her holiday, Hannah rents a bike. She pays a fixed cost of \$8 and then a cost of \$4.50 per day. Hannah pays with a \$50 note and receives \$10.50 change.

Calculate for how many days Hannah rents the bike.

Answer days [3]

© UCLES 2012

11



For Examiner's Use

In the diagram lines AC and DF are parallel and AE = EB. Angle $AEB = 52^{\circ}$.

(a) Write down the mathematical name for triangle AEB.

Answer(a) [1]

(b) Work out the value of *a*.

 $Answer(b) \ a =$ [1]

(c) Explain why a = b.

Answer(c) [1]

12 Solve the simultaneous equations.

$$4x + y = 18$$

$$5x + 3y = 19$$

Answer x =

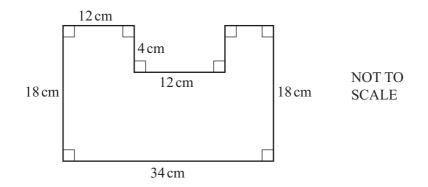
$$y =$$
 [3

13	(a)	Write 0.00064 in standar	rd form.						
	(b)	Calculate, writing the an	swer in st	andarc	l form.		×10 ⁷	(a)	 [1]
						P.	Inswer	(b)	 [2]
14									
			7	3	8	2	5	1	
			5	3	4	6	2	3	
	For	the numbers above work	out the						
	(a)	mode,							
						A	Inswer	(a)	 [1]
	(b)	median,							
	(c)	range.				P.	Inswer	(b)	 [2]
	(-)	5 **				E	Inswer	(c)	 [1]

15		chout using your calculator, work out the following wall the steps of your working and give each and		
	(a)	$\frac{11}{12} - \frac{1}{3}$		
	(b)	$\frac{1}{4} \div \frac{11}{13}$	Answer(a)	[2]
16	(a)	Solve the equation $5(x-3) = 21$.	Answer(b)	[2]
	(b)	Make x the subject of the equation $y = 3x - 2$.	Answer(a) x =	[2]
			Answer(b) x =	[2]

17

For Examiner's Use



For the shape above, work out

(a) the perimeter,

Answer(a)		cm	[2]
-----------	--	----	-----

(b) the area.

Answer(b)
$$cm^2$$
 [2]

18 (a) Find the value of 7p-3q when p=8 and q=-5.

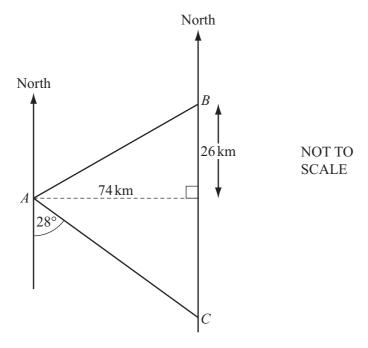
(b) Factorise completely.

$$3uv + 9vw$$

$$Answer(b) \qquad [2]$$

19

For Examiner's Use



(a) Work out the bearing of A from C.

Answer(a)	[2]

(b) Calculate the distance *AB*.

Answer(b) km [2]

20 (a) Colin has some seeds.

The probability a seed will grow is 0.85.

			nswer(a)	
	owers. ers are chosen at rando eccorded in the table be			
	Colour of flower	Frequency	Relative Frequency	
	Red	20	0.16	
	Blue	15		
	Yellow	35		
	Other	55		
(i) Complete th	ne table to show the rela	ative frequency	of each colour	
(ii) Richard gro	ws 800 flowers in total	l.		
Estimate ho	w many of these flowe	ers are red.		

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.