

Cambridge

## **Cambridge International Examinations**

Cambridge International General Certificate of Secondary Education

CANDIDATE NAME			
CENTRE NUMBER		CANDIDATE NUMBER	
MATHEMATICS			0580/13
Paper 1 (Core)			May/June 2014
			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 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.

The syllabus is approved for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

This document consists of 11 printed pages and 1 blank page.



[Turn over

1

-3°C 8°C -19°C 42°C -7°C

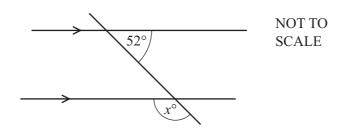
Write down the lowest temperature from this list.

Answer		$^{\circ}C$	Г17
TITISTYCI	•••••		L+1

2 Change 6450 cm into metres.

*Answer* ...... m [1]

3



In the diagram, a straight line intersects two parallel lines.

Find the value of x.

$$Answer x = \dots [1]$$

4 Calculate.

$$\frac{56.2 - 34.8}{-0.2}$$

*Answer* ......[1]

5 Write down the value of  $7^{\circ}$ .

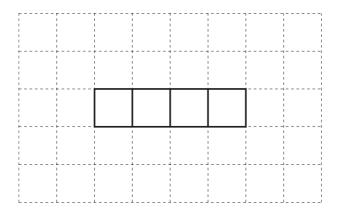
*Answer* ...... [1]

6	Write	45 000	in cton	dord	form
0	write	45000	in sian	ดลเด	TOTM

Answer	 [1]
11.00,,0.	 1 * 1

7 Four faces of a cube are drawn on the grid.

Complete the net of this cube.



[1]

**8** Write down all the prime numbers that are greater than 30 and less than 40.

4		-
Amannon	- 1	
Answer	 - 1	

9

$$\mathbf{a} = \begin{pmatrix} -3\\4 \end{pmatrix} \qquad \qquad \mathbf{b} = \begin{pmatrix} 2\\6 \end{pmatrix}$$

Write each of the following as a single vector.

(a) 2a

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

(b) a - b

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

10	(a)		1	4	8	12	27	7 4	10
		Write down the num	nber from	n this lis	st which	is both a	a cube r	number a	and has a factor of 4.
							An	ıswer(a)	[1]
	<b>(b)</b>	1258 is a multiple o	f 34.						
		Write down a different	ent mult	iple of 3	4 betwe	en 1200	and 13	00.	
							An	ıswer(b)	[1]
11				-3	-5	1	0	3	
	Thr	ee different numbers	from the	e list are	added to	ogether	to give	the smal	lest possible total.
	Con	nplete the sum below							
				+		. +		=	[2]
12	The	area of a square is 3	6 cm <sup>2</sup> .						
	Cal	culate the perimeter of	of this sq	uare.					
								Answer	cm [2]
13		mean of five number of the numbers are		nd 10.					
	Wor	rk out the number tha	t is miss	ing fron	n the list	-			
								Answer	[2]

14 Find the value of 3a - 5b when a = -4 and b = 2.

		Answer	. [2]
15	Celine buys a bag of 24 tulip bulbs. There are 8 red bulbs and 5 white bulbs. All of the other bulbs are yellow.		
	Celine chooses a bulb at random from the bag.		
	(a) Write down the probability that the bulb is red or white.		
		Answer(a)	. [1]
	<b>(b)</b> Write down the probability that the bulb is yellow.		
		Answer(b)	. [1]
16	Find the fraction that is half-way between $\frac{1}{2}$ and $\frac{2}{3}$ .		

17 Using a straight edge and compasses only, construct the perpendicular bisector of AB. All construction arcs must be clearly shown.



[2]

18 Michelle sells ice cream.

The table shows how many of the different flavours she sells in one hour.

Flavour	Vanilla	Strawberry	Chocolate	Mango
Number sold	6	8	9	7

Michelle wants to show this information in a pie chart.

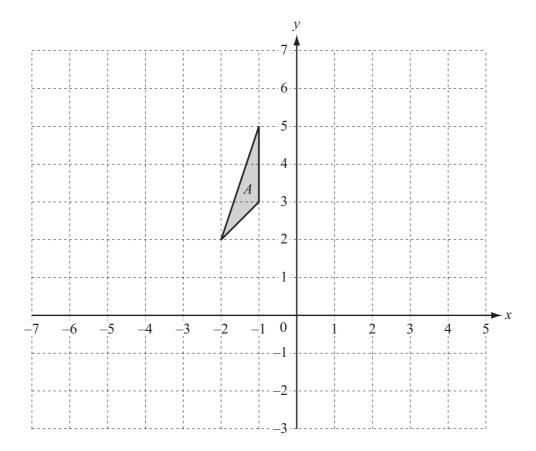
Calculate the sector angle for mango.

19 Chris changes \$1350 into euros ( $\in$ ) when  $\in$ 1 = \$1.313.

Calculate how much he receives.

*Answer* €.....[2]

**20** 



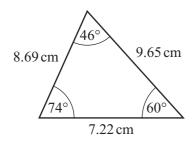
Draw the image of triangle A after a translation by the vector  $\begin{pmatrix} 3 \\ -4 \end{pmatrix}$ . [2]

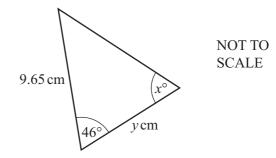
	21	Each exterior	angle of a	regular p	olvgon i	s 30°.
--	----	---------------	------------	-----------	----------	--------

Work out the number of sides the polygon has.

Answer	 [2]
11.00,00	 L

22





These two triangles are congruent. Write down the value of

**(a)** *x*,

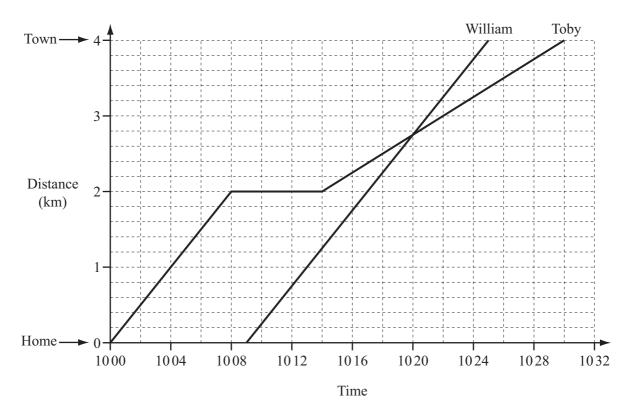
$$Answer(a) x =$$
 [1]

**(b)** *y*.

$$Answer(b) y = \dots [1]$$

23	Without using a calculator, work out Write down all the steps in your work			
			Answer	[3]
24	Solve the simultaneous equations.	2x + 3y = 29 $5x + y = 27$		
			Answer $x = \dots$ $y = \dots$	

25



Toby and William cycled into town. Their journeys are shown on the travel graph.

(a) For how many minutes did Toby stop on his journey into town?

Answer(a)		min	[1]
-----------	--	-----	-----

**(b)** Explain what happened at 1020.

(c) Work out how long William took to cycle into town.

*Answer(c)* ..... min [1]

(d) Calculate William's speed in km/h.

*Answer(d)* ..... km/h [2]

26	(a)	Factorise completely. $15a^3 - 5ab$		
	(b)	Simplify. $3x^2y^3 \times x^4y$	Answer(a)[2	2]
	(c)	Multiply out the brackets and simplify.	Answer(b)	2]
	(d)	Solve the equation. $8x + 9 = 3(x + 8)$	Answer(c)[2	2]

Answer(d) x = [3]

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