

## **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.

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



1	2	WWW. TRY THE IS CIOUD. COM
	Write down the type of angle shown in the diagram.	
2	Write down the size of one angle in an equilateral triangle.	[1]
3	Write 23 000 in standard form.	[1]
4	Work out.	[1]
	(a) $\binom{-2}{5} - \binom{-1}{1}$	
	<b>(b)</b> $7\begin{pmatrix} -3\\ 4 \end{pmatrix}$	
5	Expand. $2x(3-x^2)$	



6 Triangle *ABC* and triangle *DEF* are similar.



3

Find DE.

$$DE = ..... cm [2]$$

7 The diagram shows a right-angled triangle.



Use trigonometry to calculate the value of x.

## 8

$$T = a^2 + 4b$$

Find the value of *T* when a = 5 and b = 3.



[3]

9 Complete the table.

Fraction		Percentage
$\frac{1}{4}$	=	
	=	47%
$\frac{3}{5}$	=	

10 The scale drawing shows the positions of town A and town B. The scale is 1 centimetre represents 12 kilometres.



(a) Work out the actual distance from town A to town B.

..... km [2]

(b) Measure the bearing of town *B* from town *A*.

......[1]



\$ ......[3]

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13 The diagram shows a conversion graph between pounds (£) and dollars (\$).



Ana finds the same watch on sale in a shop and on the internet. The shop price is \$120. The internet price is £90.

Use the conversion graph to find which price is lower. Show your working clearly.

							The.	 price is lo	ower. [3]
14	(a)	The expression for	the <i>n</i> th term of	of a seque	ence is 5	$n^2$ .			
		Work out the third	term in this se	equence.					
									[1]
	(h)	These are the first	five terms of a	n sequenc	<u>ور</u>				[+]
	(0)	These are the mist		i sequenc					
			-4	2	8	14	20		
		Find an expression for the <i>n</i> th term of this sequence.							
									[2]
								 	[2]
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Choice	Number of students
University	57
Training	45
Work	18

7

Complete the pie chart to show this information. Label each sector clearly.



[4]

16	Calc (a)	<b>8</b> ulate. 4.1 <sup>3</sup>	www.mymainscioud.com
	(b)	$-4 - (5^2 - 2 \times 4 \times -3)$	[1]
	(c)	$\frac{4.88 - 2.36}{5.3 + 1.9}$	[1]
	(d)	$\sqrt{56.25} - \sqrt[3]{15.625}$	[1]
17	(a)	Write 56 as a product of its prime factors.	[1]

.....[2]

(b) Find the lowest common multiple (LCM) of 56 and 42.



<b>(a)</b>	Using a straight edge and compasses only, construct the bisector of angle BCD.		
<b>(b)</b>	Draw the locus of the points inside the pentagon that are 3 cm from E.	[1]	

(

(c) Shade the region inside the pentagon that is

D

• less than 3 cm from E

and

18

• nearer to *DC* than to *BC*.

[1]



**19** Solve the simultaneous equations. You must show all your working.

2x + 5y = 603x - 2y = 14

10





i.....-4.

Δ

A

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

		()[1]
(b)	On the grid, plot point $B$ (1, -3).	[1]

-3

(c) Find the gradient of line *L*.

.....[2]

(d) Find the equation of line L in the form y = mx + c.

y = .....[1]



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