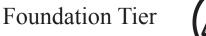


	Centre Number					
	Car	ndida	te Nu	mber		

General Certificate of Secondary Education 2018

Mathematics

Unit T1 (With calculator)





[GMT11]

GMT11

THURSDAY 24 MAY, 9.15am–10.45am

TIME

1 hour 30 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

You must answer the questions in the spaces provided.

Do not write outside the boxed area on each page or on blank pages.

Complete in black ink only. Do not write with a gel pen.

Answer all twenty-five questions.

All working should be clearly shown in the spaces provided. Marks may be awarded for partially correct solutions.

You **may** use a calculator for this paper.

INFORMATION FOR CANDIDATES

The total mark for this paper is 100.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

Functional Elements will be assessed in this paper.

Quality of written communication will be assessed in Question 22.

You should have a calculator, ruler, compasses and a protractor.

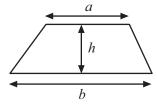
The Formula Sheet is on page 2.



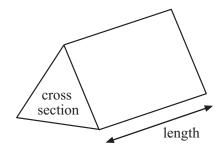
Formula Sheet

Learning Cal

Area of trapezium = $\frac{1}{2}(a+b)h$



Volume of prism = area of cross section \times length





1	The pictogram shows the amount of paint sold.
	Gloss
	Satin
	Matt
	Outdoor
	Undercoat
	(a) 30 litres of matt paint were sold. Complete the key.
	represents litres [1]
	(b) How many litres of satin paint were sold?
	Answer[1]
	(c) How many more litres of gloss than outdoor paint were sold?
	Answer[1]
	(d) 160 litres of paint were sold. Complete the pictogram for undercoat. [2]
11203.05	Turn over



2	2	Write down					ı
		(a) a multiple of 11 between 5	0 and	60,		Answer	[1]
		(b) a factor of 65 between 10 a	and 20	,		Answer	[1]
	(c) two numbers less than 10 whose sum is 17,						
		(6) 0110 1101110 013 11031 11011 13	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Z	Answer	and	[1]
	(d) two numbers less than 10 whose difference is 8,						
					Answer	and	[1]
		(e) two numbers less than 10 v	whose	product is 42			
					Answer	and	[1]
3	3	Circle the best answer for each	of the	following.			
		(a) Distance from Belfast to D	ublin				
		16k	m	160 km	1600 km		[1]
		(b) Capacity of a coffee mug					
		2	ml	20 ml	200 ml		[1]
		(c) Weight of a sugar cube					
			5 g	50 g	500 g		[1]
1120	3.05	R					

20 7 Learning G. 20 7 Loaving G. 20 G. 20 G: 20 Learning G. 20 G. 20 G. DED 7 Learning G. Rowards 20 7 Learning G. 20 7 Learning G. 20 G.

Do J. Learning

Phaserolin

Parameter Parame

Downerding Research

J. Learning

G. Rosensin

Remarks

A coming

Rowards

To a control

To a co

Remarked 20 1 Loaning

Russicia 20 7 Learning

G:



4 В (a) Complete the sentences, using compass directions. (i) C is North of O and A is ______ of O. [1] (ii) C is ______ of A. [1] (iii) O is of B. [1] **(b)** D is West of C and North-West of O. What are the coordinates of D? Answer (_____, ___) [2] Turn over 11203.05 R

Amendry I



5 PRICE LIST

Carrots

Baby potatoes

£1.20 per kg

£1.20 per kg

Baking potatoes

£1 for 4

Cauliflower

£1.35 each

Cabbage

Sprouts

£1.50 per kg

Onions

Ciaran buys 2 kg of carrots, $\frac{1}{2}$ kg of onions, a cabbage and 8 baking potatoes.

What change should he get from £10?

Answer £_____[4]

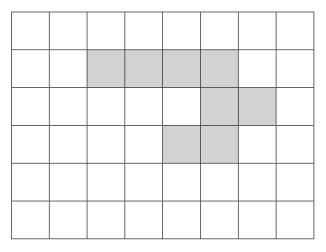
DE 7 Learning

DED , Learning

20 Learning



6 Look at the shape drawn below on a cm grid.



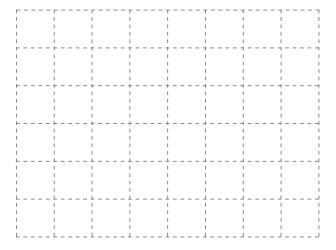
(a) What is the area of the shaded shape?

Answer _____ [2]

(b) What is the perimeter of the shaded shape?

Answer _____ cm [1]

(c) Draw another shape on the grid below which has the same perimeter but a different area.



[2]

Turn over

11203.05 **R**

Amendaga I

Amenda



7		A		,	H 		7
	+				X		! !
 	B .		F	X		<u>M</u>	
 		, , , , , , , , , , , , , , , , , , ,	+			; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	
 	C		E				1
 	-						1
 	-	p					1
 	<u>-</u>	ļ ļ	444			ļ <u>ļ</u> ļ]] !
<u>_</u>		Ğ			X	i i i	j
	(i) A (ii) A (iii) H	CDF,		Answer			[1 [1 [1
	(iv) H	IJK.		Answer			[1
203.05 R							

Learning

A Learning

Research

Partity

Research

Partity

Research

Research

Research

Research

Learning Research

20 7 Lecarding

Theoreting

Pleaserile

Pleaserile

Pleaserile

Research

De p Learning

| Commission | C

Daning Research

Powerfor

Research

Research

Research

Research

Research

Danserthe Danser

Rowerding Learning

Daning Leaving

Research

J. Learning

G. Rosensin

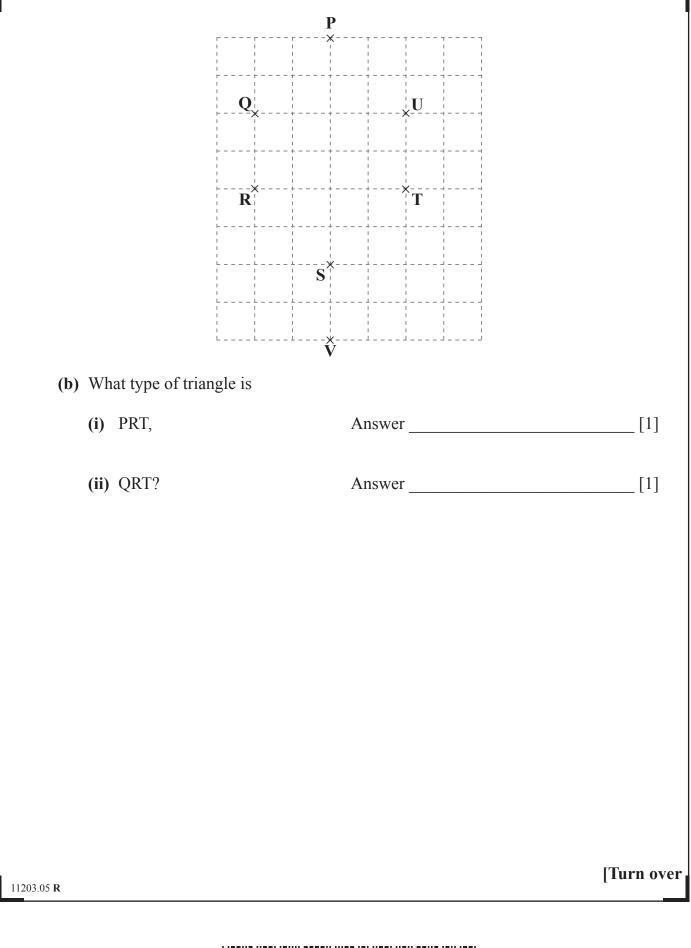
Remarks

A coming

Rowards

Parties

Rowards

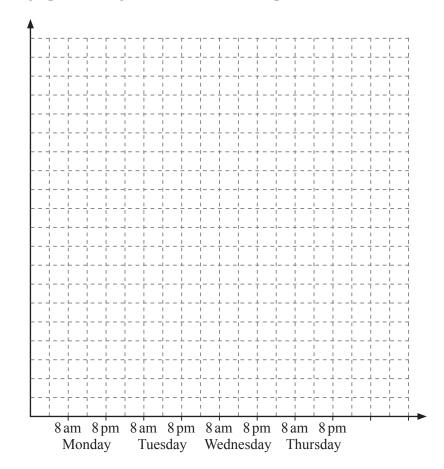




8 The temperature was recorded every twelve hours.

Time	Temperature
Monday 8 am	6°C
Monday 8 pm	3 °C
Tuesday 8 am	5°C
Tuesday 8 pm	5°C
Wednesday 8 am	7°C
Wednesday 8 pm	8°C
Thursday 8 am	6°C
Thursday 8 pm	2°C

(a) Draw a line graph on the grid to show these temperatures.



[3]

De g Learning

Learning Co.

20

20

20

DED 7 Learning

20 Learning

DE Learning

De Loaning

20 7 Learning CO.

20

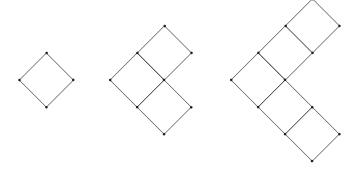
Rosardio
Rosardio
Rosardio
Researdio



(b)	Calculate the mean temperature.		
		Answer	°C [3]
(c)	What is the median temperature?		
		Answer	°C [2]
11203.05 R			[Turn over



9 Patterns are made using matchsticks.



Pattern 1 Pattern 2 Pattern 3 Pattern 4

(a) Draw Pattern 4. [1]

(b) Complete the following table.

Pattern Number	1	2	3	4
Number of matchsticks	4	10		

[1]

DE Loaming

200 7 Loaning

(c) Describe how the number of matchsticks in the shape changes as each new pattern is made.

____[1]

(d) What is the number of matchsticks in Pattern 11?

Answer [2]



11203.05	R [Turn over
	Answer Company made more sports cars [4]
	Show your working clearly.
	Which company made more sports cars and how many more?
	Company B made 125 sports cars each month.
	35% of these were sports cars.
10	Company A made 4200 cars in a year.

Comments of the control of the contr



11 (a) I think of a number, multiply it by 3 and then add 1

The answer is 28

What was the number?

Answer _____ [2]

DE Loaming

20

DED , Learning

DED , Learning

De Loaning

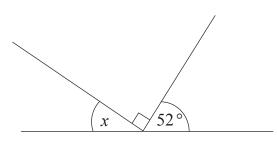
(b) I think of a number, subtract 1 from it and then divide by 4

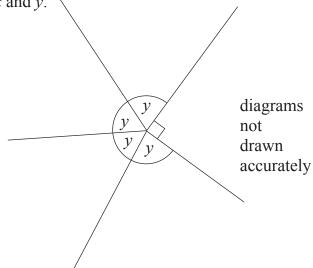
The answer is 3

What was the number?

Answer [2]

12 Calculate the size of the angles marked x and y.





Answer x = [1]



				_	
13	The midday	temperatures	on six	days	were

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
−1 °C	−3 °C	−2°C	0°C	1°C	4°C

What was the midday temperature on Sunday?

14 Solve

According to the control of the cont

(a)
$$6x = 18$$

Answer
$$x =$$
 [1]

(b)
$$5 + x = 21$$

Answer
$$x =$$
 [1]

[Turn over



15		1, 4, 9, 16, 25,, (a) Fill in the next two numbers in the sequence above.					
	(b) What is t	ha nama far th	a numbara in	this saguanaa	2		
	(b) what is u	he name for th	e numbers m				F17
				Answei _			[1]
16	Quinn has exactly 3 coins in his pocket. Circle the amounts of money that could be in his pocket.						
	16p	18p	71p	75p	£1.08	£2.07	
							[3]
11203.03	5 R						

y Learning

Rewardin

Pewarding

J. Learning

Rewarding

J. Learning

Daning Learning

20 7 Lecarding

Thearing

Research

Research

Learning

Research

De p Learning

Research

Research To a control of the control

Learning

Research

Research

Research

Research

Research

Downing Learning

Pennercia De p Learning Romanda

Learning
Rowardin
Rowardin
Rowardin
Rowardin

Daniel Control of the Control of the

Day Learning
Rewardin

Rowarding

J. Learning

Rowarding

Rowarding

Rowards

Parties

Rowards



GE Rowarding i	
Country I	
GG Rowarding I	
Laserring	
GG Rewarding i	
(Looming	
GE Researching i	
DE Looming	
GG Rowarding i	
2 Learning	
GE Rowarding i	
Rewarding	
Eseming .	
GE Rewarding I	
Rewarding I	
Œ	
Rewarding I	
Lourning	
GE Rewarding I	
Learning	
GG Researching i	
Rewarding I	
GE Rewarding I	
O Learning	
GG Remarking i	
Day Lasming	
Laserning	
Rewarding i	
Looming Looming	
GG Researching i	
200 Looming	
GE Rewarding I	
E Learning	
GE Rewarding I	
S Learning	
GG Remarking i	
Rewarding I	
GG Remarking i	
2 Looming	
GG Rewarding i	
Rewarding I	
GG Rowarding I	
200 Learning	
GG Rosseller	
Rewarding I	
Rewarding I	
Q Lawring	
GG Rewarding i	
DO Coming	

11203.05 R

17 Write in order, from smallest to largest, $\sqrt{0.81}$ 0.81² 0.81 $0.7^2 + \sqrt{5.76}$ 18 (a) Calculate (b) Without using a calculator, show how to work out the value of $7^3 \times 10^2$

Answer [2]

Answer _____ [1]

Turn over

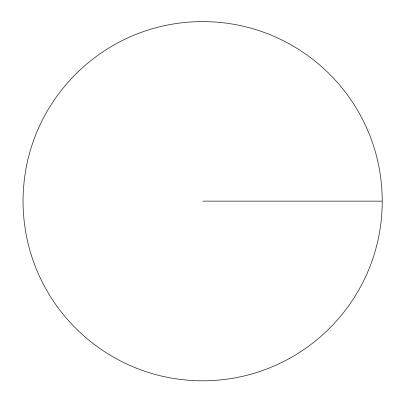


19 120 people work for an I.T. company.

The table below shows how they get to work.

Car	56
Walk	21
Bus	35
Train	8

Draw a pie chart below to show this data.



[4]

y Learning

Rewardin



20	Dayle maid £175 for 50 mans			
20	Paula paid £175 for 50 pens.			
	She sold 60% of them at £4 each			
	She then reduced the price by £1	.50 each and sold the rest.		
	Did she make a profit or loss?			
	How much was this profit or loss	s?		
		Answer	of £	[6]
11203.05	R			[Turn over

Comments of the control of the contr



21 The life expectancy for males in 12 countries in Africa for 2015 is shown in the following stem and leaf diagram.

 4
 9

 5
 0
 5
 5
 6
 8
 8

 6
 0
 2
 4

Key: 5 | 3 means 53 years

(a) How many of these countries had a life expectancy for males of less than 58 years?

Answer _____[1]

DE 7 Learning

200 7 Loaming

20

20

DED , Learning

- **(b)** For the above data work out
 - (i) the median,

Answer ______ years [1]

(ii) the range.

Answer _____ years [1]



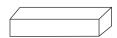
and a range of 30 years.	
e the life expectancy for males in these 12 acy for males in 1975	countries in 2015 with the life
	[2

Comments of the control of the contr



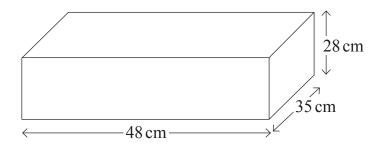
Quality of written communication will be assessed in this question.

22 The packaging for a tube of toothpaste is a cuboid measuring $16 \,\mathrm{cm} \times 5 \,\mathrm{cm} \times 4 \,\mathrm{cm}$.



The manufacturer wants to be able to pack 150 of these tubes into a cardboard box. The box is a cuboid.

The box measures $48 \text{ cm} \times 35 \text{ cm} \times 28 \text{ cm}$.



Will the box be big enough to hold 150 tubes of toothpaste in their packaging? You must show working to explain your answer.

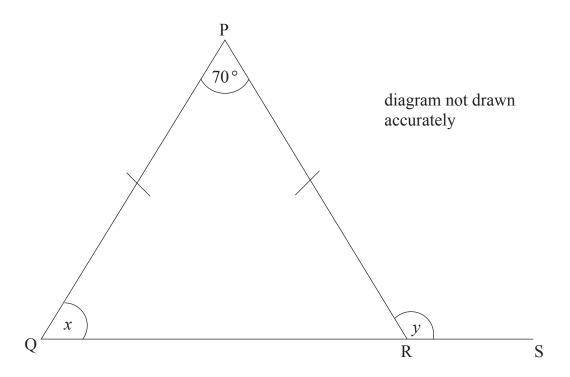
Answer	[3]

DE Loaming

D



23



PQR is an isosceles triangle with PQ = PR. QRS is a straight line.

(a) Work out the size of the angle marked x.

Answer _____ ° [2]

(b) Work out the size of the angle marked y.

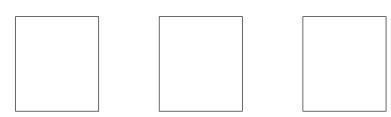
Answer _____ ° [1]

[Turn over

11203.05 **R**



24 There are 3 cards.



Each card has a number on it. The mode of the 3 numbers is 7 The mean of the 3 numbers is 9 Work out the 3 numbers on the cards.

Answer ______ , _____ , _____ [2]

25 (a) Simplify 7c - 3d - 2c + 2d

Answer [2]

20 7 Learning

20

DO J. Learning

20

Learning Co.

DED , Learning

De learning

(b) Solve

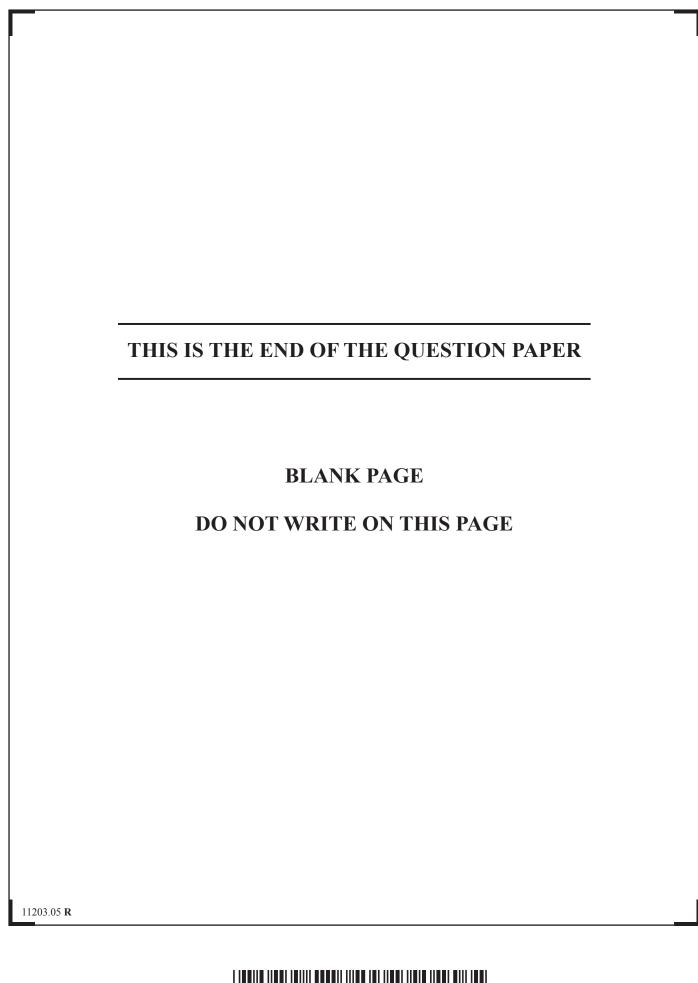
(i)
$$\frac{x}{3} = 9$$

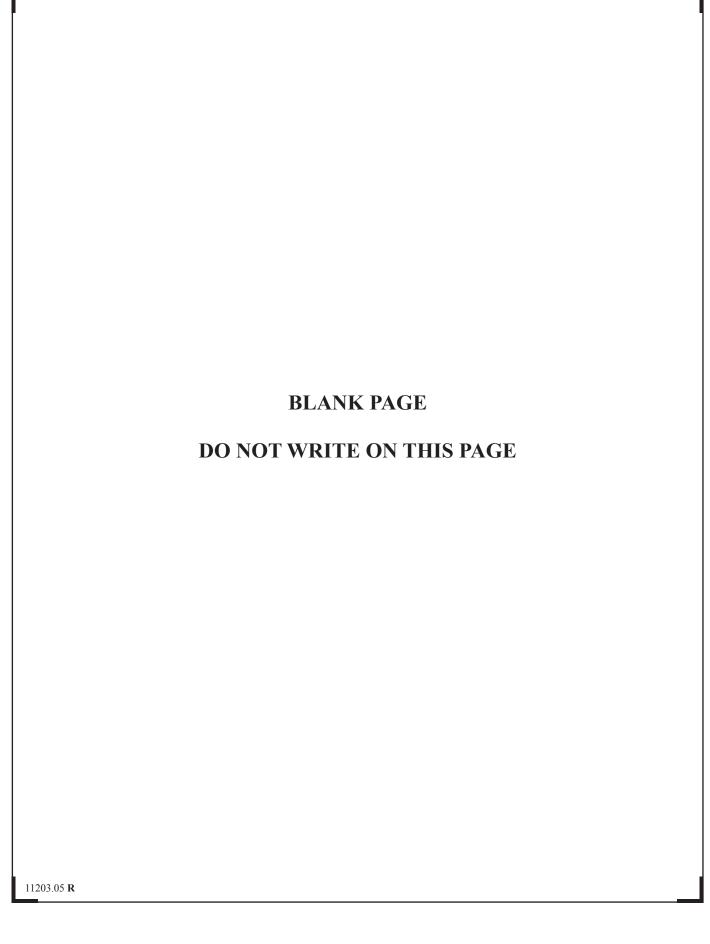
Answer $x = ____[1]$

(ii)
$$5y + 4 = 23$$

Answer y =____[2]







Paraming

Research

Research

Research

Research

Research

D Lawring

20

D Learning

20

D Learning

D Learning

DD 7 Learning

DED , Learning

20 7 Learning

Learning Research

20 y Learning

Research

Partial Research

Research

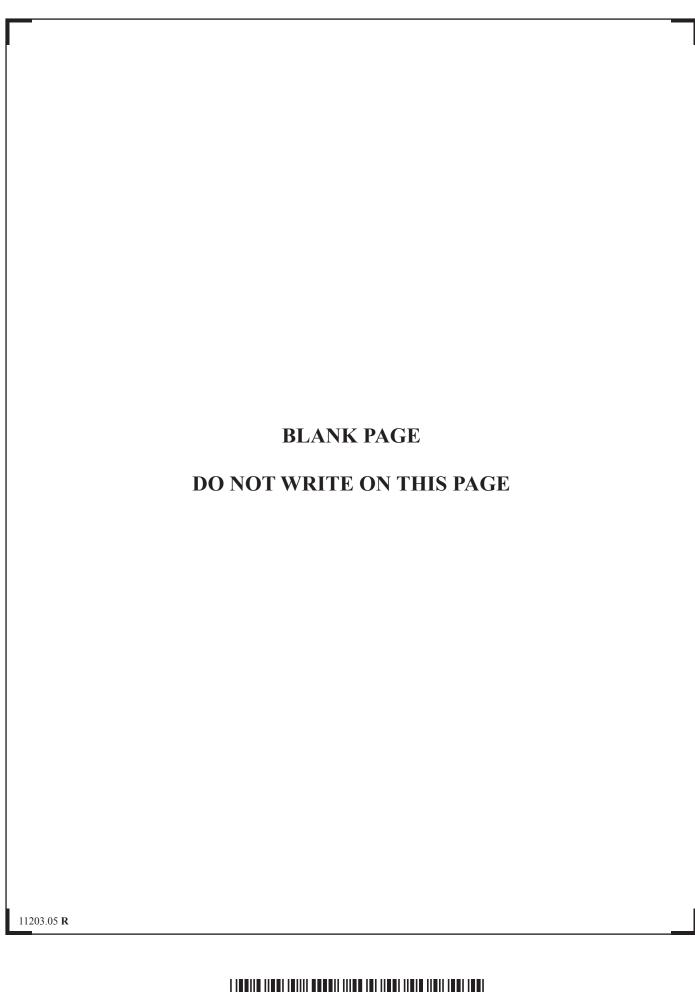
Research

Research

Research

Research

Research





DO NOT WRITE ON THIS PAGE

For Examiner's use only	
Question Number	Marks
1	
2	
3	
5	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	

	1
Total	
Marks	

Examiner Number

Permission to reproduce all copyright material has been applied for. In some cases, efforts to contact copyright holders may have been unsuccessful and CCEA will be happy to rectify any omissions of acknowledgement in future if notified.

