

GENERAL CERTIFICATE OF SECONDARY EDUCATION

MATHEMATICS C

Foundation Tier

TERMINAL PAPER – SECTION A

SPECIMEN

Candidates answer on the question paper.

Additional Materials:

Geometrical instruments

Tracing paper (optional)

F B281/A

Time: 1 hour



Candidate
Name

Centre
Number

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Candidate
Number

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INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above.
- Answer **all** the questions.
- Use blue or black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure you know what you have to do before starting your answer.
- In many questions marks will be given for a correct method even if the answer is incorrect.
- Do **not** write in the bar code.
- Do **not** write outside the box bordering each page.
- WRITE YOUR ANSWER TO EACH QUESTION IN THE SPACE PROVIDED. ANSWERS WRITTEN ELSEWHERE WILL NOT BE MARKED.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this section is 50.



WARNING You are not allowed to use a calculator in this paper.

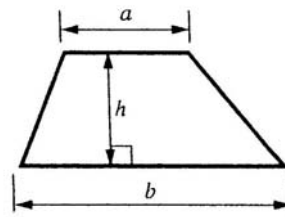
For Examiner's Use

Section A

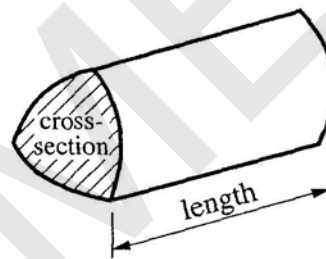
This document consists of **14** printed pages and **2** blank pages.

2
FORMULAE SHEET

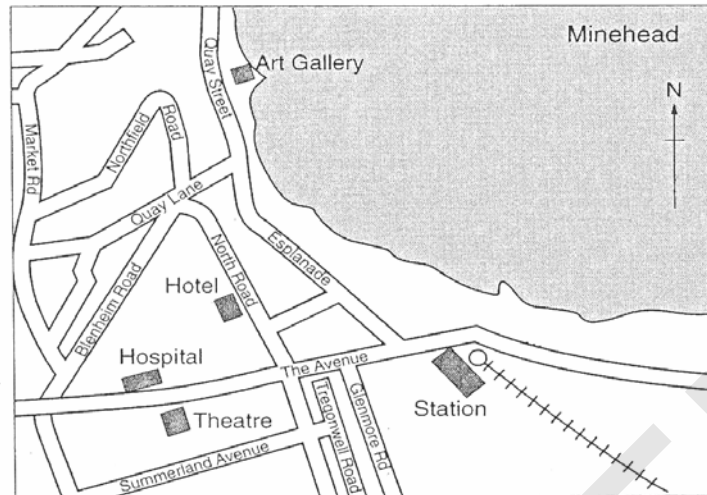
Area of trapezium = $\frac{1}{2}(a+b)h$



Volume of prism = (area of cross-section) x length



1 This is a map of Minehead.



(a) Andy turns left out of the Station.
He walks along The Avenue.

(i) Which compass direction is he walking in?

(a)(i) _____ [1]

(ii) Which building is on his right?

(ii) _____ [1]

(b) Roger comes out of the Hotel and turns left into North Road.
He turns left into Blenheim Road.

Which compass direction is he walking in?

(b) _____ [1]

(c) Val walks from the Hotel to the Art Gallery.
Complete these directions for her journey.

Turn left out of the Hotel into North Road.

Turn _____ into Quay Lane. [1]

Turn left into _____ [1]

5	
---	--

[Turn over

2 This timetable shows the times (GMT) of some of the Channel Tunnel trains.

London	05 33	06 34	07 39	08 12	09 09	10 12	10 42
Paris	08 23	09 23	10 23	10 47	11 53	12 53	13 34
Paris	13 43	15 07	16 10	16 43	17 16	18 19	19 43
London	16 28	17 57	18 57	19 25	19 58	20 54	22 28

(a) (i) At what time does the 08 12 from London arrive in Paris?

(a)(i) _____ [1]

(ii) How long does the journey take?

(ii) _____ hours _____ minutes [1]

(b) Bev arrives in Paris at 09 23.

She spends 8 hours shopping in Paris.

What is the time of the next train she can catch back to London?

(b) _____ [1]

(c) Mary is taking her grandchildren to Paris for the day.

She needs 1 adult ticket and 3 child tickets.

This table shows the ticket prices.

	Single	Return
Adult	£40	£59
Child	£25	£48

How much does she save altogether by buying 4 return tickets instead of single tickets?

(c) £ _____ [5]

8

- 3 Use this list of number to complete the statements below.
You can use the numbers more than once.

5	10	12	16	18	28	32	42	48	80
---	----	----	----	----	----	----	----	----	----

(a) _____ is a square number. [1]

(b) $2 + 5 \times 6 =$ _____ [1]

(c) $(21 - 13) \times (14 - 8) =$ _____ [1]

3

[Turn over

4 This table shows the singles with the highest sales in Britain.

Artist	Title	Year	Number Sold (millions)
The Beatles	She Loves you	1962	1.89
Queen	Bohemian Rhapsody	1975	2.13
Wings	Mull of Kintyre	1977	2.05
Boney M	Brown Girl In The Ring	1978	1.99
Boney M	Mary's Boy Child	1978	1.79
John Travolta & Olivia Newton John	You're the One that I Want	1978	1.98
Frankie Goes to Hollywood	Relax	1983	1.91
Band Aid	Do They Know It's Christmas	1984	3.55
Robson & Jerome	Unchained Melody	1995	1.84
Elton John	Candle In The Wind	1997	4.86

(a) Which single sold nearest to two million?

[1]

(b) Write down the five largest sales in order, *largest* first.

[2]

largest

(c) There are three singles from 1978 in the top ten.

How many copies did these three singles sell altogether?

(c) _____ million [2]

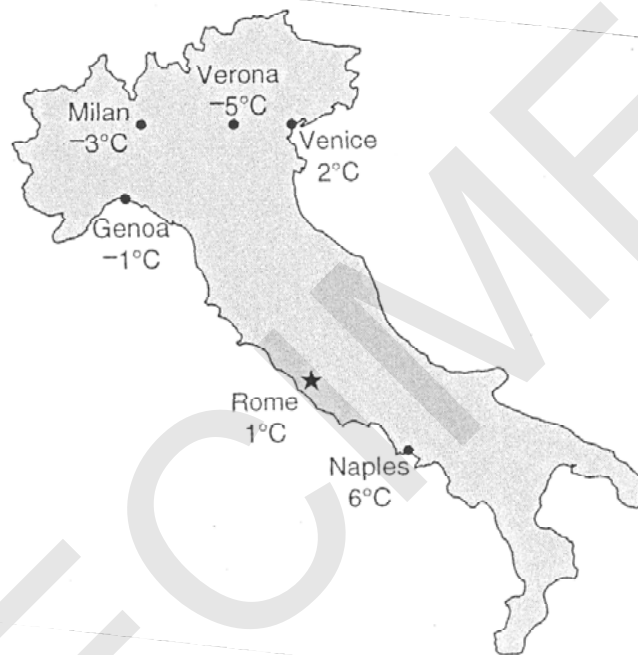
- 4 (d) The Beatles song 'I Want to Hold Your Hand' sold one million seven hundred and fifty thousand singles.

Write one million seven hundred and fifty thousand in figures.

[1]

6

- 5 This map shows the temperatures in some Italian cities one day in winter.



- (a) Which city is the coldest?

(a) _____ [1]

- (b) Complete the sentences.

(i) Genoa is _____ degrees warmer than Milan. [1]

(ii) Genoa is _____ degrees cooler than Naples. [1]

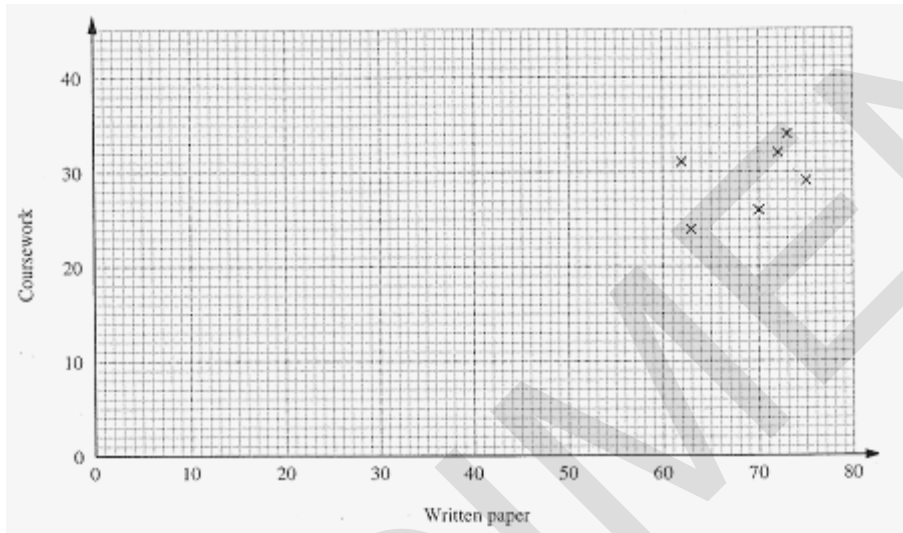
3

[Turn over

- 6 An examination consists of a written paper and a piece of coursework. The marks for 12 candidates are shown below.

Written Paper	75	73	72	70	63	62	60	55	52	47	33	15
Coursework	29	34	32	26	24	31	25	19	20	18	17	5

The marks for the first six candidates have been plotted on the scatter diagram below.



- (a) Complete the scatter diagram. [2]

- (b) Describe the correlation.

[1]

- (c) (i) Draw a line of best fit on the scatter diagram. [1]

- (ii) Sajid scored 22 on his coursework but was absent for the written paper. Use your line of best fit to estimate a mark for his written paper.

- (c)(ii) _____ [1]

5

7 (a) Work out.

(i) 0.6×0.4

(a)(i) _____ [1]

(ii) 5^3

(ii) _____ [1]

(b) Write $\frac{7}{8}$ as a decimal.

(b) _____ [2]

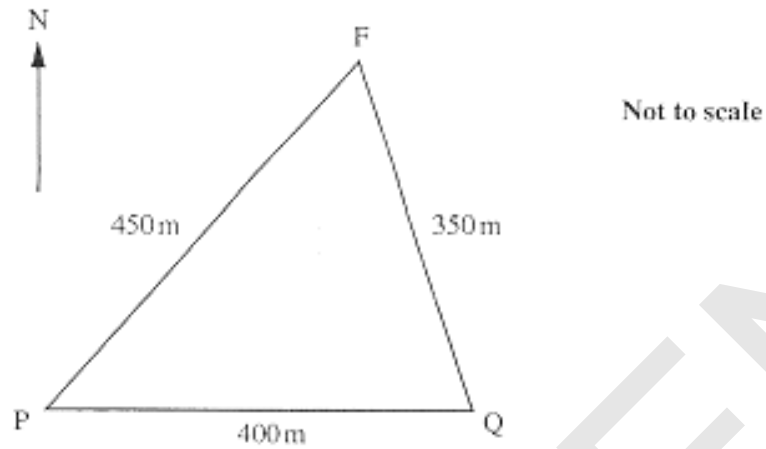
(c) Write 70 out of 200 as a percentage.

(c) _____ % [2]

6

[Turn over

- 8 The diagram shows the positions of two piers, P and Q, and a ferry F.
P is due West of Q.



Make an accurate scale drawing of triangle PQR.
Use a scale of **1 cm to 50 m**.

[3]

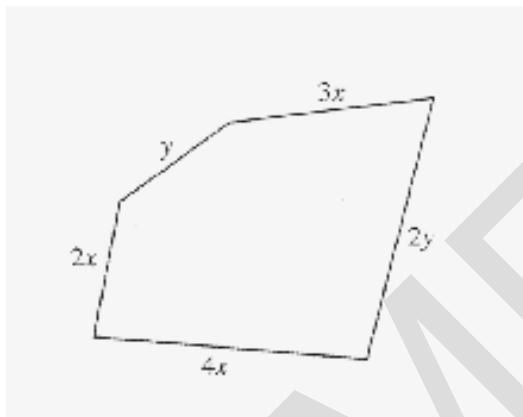
3

9 (a) Solve.

$$\frac{x}{4} = 11$$

(a) _____ [1]

(b)



Write down, as simply as possible, an expression for the perimeter of this pentagon.

(b) _____ [2]

(c) Factorise.

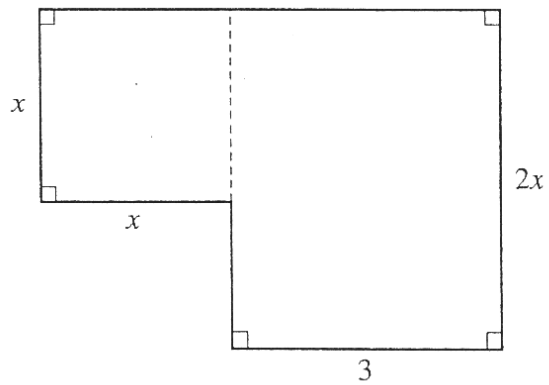
$$10x - 15$$

(c) _____ [1]

4

[Turn over

10 All the lengths in this question are in metres.



The diagram shows the plan of a room.

(a) Show that the area, A , of the room is given by

$$A = x^2 + 6x.$$

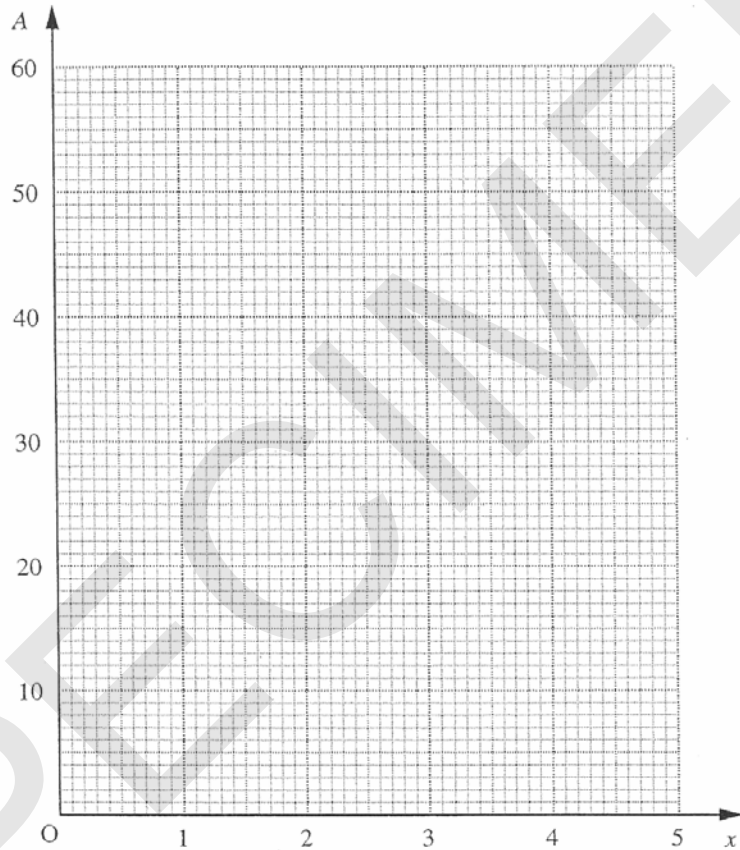
[2]

10 (b) Complete the table for $A = x^2 + 6x$.

x	0	1	2	3	4	5
A	0		16	27	40	

[2]

(c) Draw a graph of $A = x^2 + 6x$ on the grid below.



[2]

(d) The area of the room is 35 m^2 .

Use your graph to find the length of the side x .

(d) _____ m [1]

7

Section A Total [50]

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The maximum mark for this section is 50.

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1	(a)(i) (ii) (b) (c)	West Hospital South-West Right ... Quay Street	B1 B1 B1 B1	5	
2	(a)(i) (ii) (b) (c)	10 47 2 hr 35 mins 18 19 £27	B1 B1 B1 M2A3	8	M1 $59=3 \times 48$ or $2(40+3 \times 25)$ A1 £203 A1 230 M1 230-203
3	(a) (b) (c)	16 32 48	B1 B1 B1	3	
4	(a) (b) (c) (d)	Brown girl in the ring 4.86, 3.55, 2.13, 2.005, 1.99 5.76 1 750 000	B1 B2 M1A1 B1	6	B1 0e00 M1 $1.99=1.79=1.98$
5	(a) (b)(i) (ii)	Verona 2 7	B1 B1 B1	3	
6	(a) (b) (c)(i) (ii)	5 or 6 correct plots Positive l.o.b.f 50-56	B2 B1 B1 B1	5	B1 3 or 4 correct plots
7	(a)(i) (ii) (b) (c)	0.24 125 0.875 35%	B1 B1 M1A1 M1A1	6	M1 $7 \div 8$ M1 $\frac{35}{100}$ or $70 \div 200 \times 100$
8		PQ 8 cm PF 9 cm QF 7 cm	B1 B1 B1	3	All lines ± 2 mm

9	(a) (b) (c)	44 $9x + 3y$ $5(2x - 3)$	B1 B2 B1	4	B1 $9x$ or $3y$
10	(a) (b) (c) (d)	$x \times x + 3 \times 2x$ 7, ..., ..., ..., 55 smooth curve through plotted points 3.5 – 3.7 ft	B2 B1 B1 B2 B1ft	7	Convincing B1 1 error in plots

Section A Total 50

SPECIMEN

Assessment Objectives Grid

Question	AO2	AO3	AO4	Total
1		5		5
2	5		3	8
3	3			3
4	6			6
5	3			3
6			5	5
7	6			6
8		3		3
9	4			4
10	7			7
Totals	34	8	8	50