

OXFORD CAMBRIDGE AND RSA EXAMINATIONS
General Certificate of Secondary Education

MATHEMATICS B (MEI)
PAPER 1 SECTION B
INTERMEDIATE TIER

1968/2312B

Monday **5 JUNE 2006** Afternoon 45 minutes

Candidates answer on the question paper.

Additional materials:

- Geometrical instruments
- Scientific calculator
- Tracing paper (optional)

Candidate Name	Centre Number	Candidate Number												
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TIME 45 minutes

INSTRUCTIONS TO CANDIDATES

- Write your name, Centre number and candidate number in the boxes above.
- Answer **all** the questions.
- Write your answers, in blue or black ink, in the spaces provided on the question paper.
- Read each question carefully and make sure you know what you have to do before starting your answer.
- Show all your working. Marks may be given for working which shows that you know how to solve the problem, even if you get the answer wrong.

INFORMATION FOR CANDIDATES

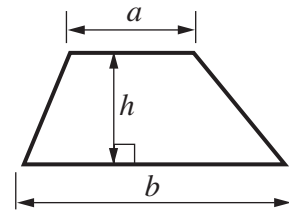
- The number of marks is given in brackets [] at the end of each question or part question.
- Unless otherwise instructed in the question, take π to be 3.142 or use the π button on your calculator.
- The total number of marks for this section is 36.
- Section B starts with question 11.

FOR EXAMINER'S USE	
Section B	

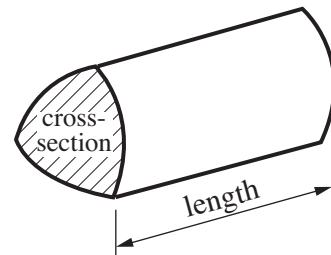
This question paper consists of 9 printed pages and 3 blank pages.

Formulae Sheet: Intermediate Tier

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



Volume of prism = (area of cross-section) \times length



11 Complete this addition table.

ADD (+)	$4x + 2$	
$3x - 1$	$7x + 1$	$5x - 4$	
$x + 7$	$3x + 4$	[3]

12 Judith travelled from Brussels to London on the train.

- (a) Her ticket cost €157.
The exchange rate was £1 = €1.43.

Change €157 into pounds.

(a) £[3]

- (b) The distance from Brussels to London is 330 km.
The train took 110 minutes.

Calculate the average speed of the train.
Give your answer in kilometres per hour.

(b)km/h [3]

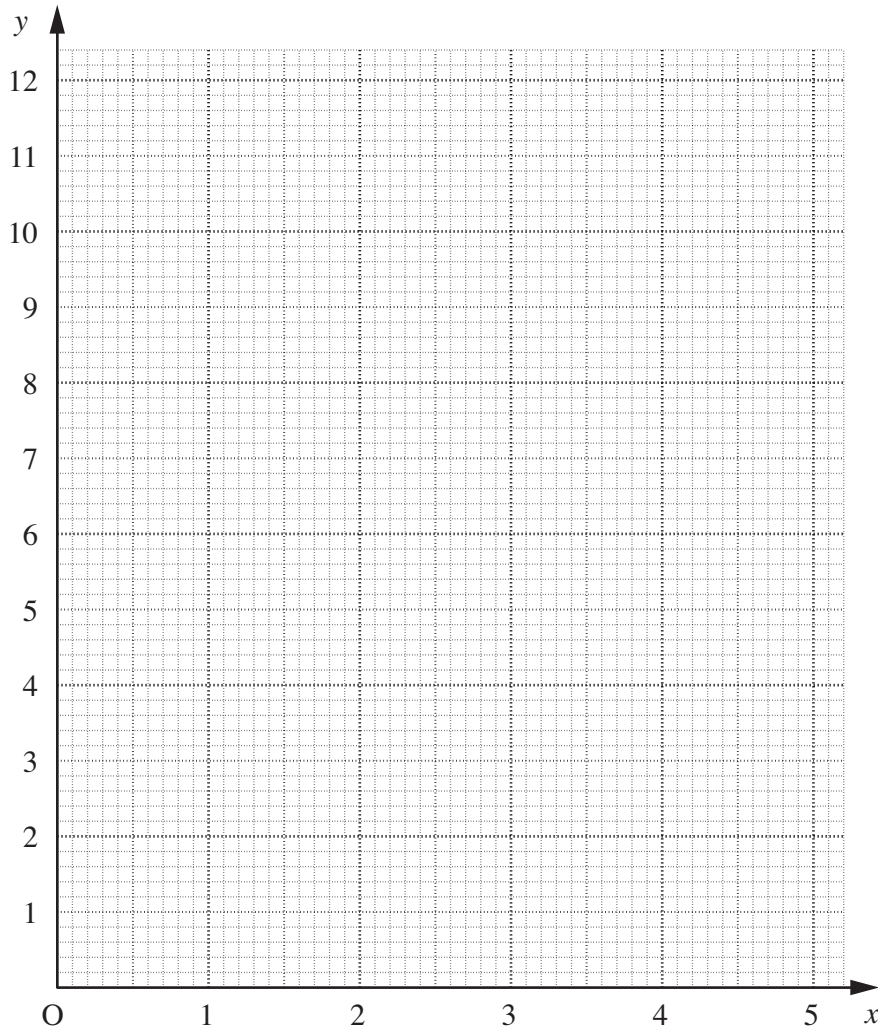
[Turn over

13 (a) Complete the table for $y = 10 - 2x$.

x	0	2	4
y	10		

[1]

(b) On the grid below, draw the graph of $y = 10 - 2x$.



[2]

(c) Write down the x -coordinate of the point on the line $y = 10 - 2x$ where the y -coordinate is 7.

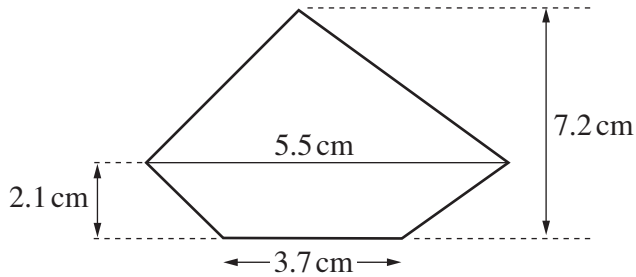
(c)[1]

- 14 Gemma used to pay £28 per month for her membership of a health club.
The health club increased its membership fee by 6%.

How much does Gemma now pay per month?

£[3]

- 15 A sailing club has a logo.
The logo is a trapezium and a triangle, as shown.



Not to scale

Calculate the area of the logo.

.....cm² [4]

16 Solve.

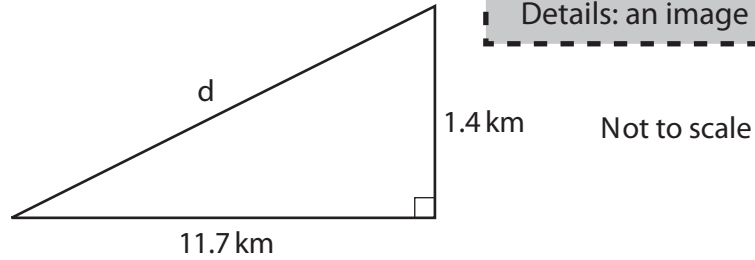
(a) $\frac{x}{7} = 6$

(a)[1]

(b) $\frac{10-x}{3} = 7$

(b)[3]

- 17 The diagram shows the flight path of an aeroplane as it takes off.
When the aeroplane has reached an altitude of 1.4 km, it has travelled a horizontal distance of 11.7 km.



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Details: an image of an aeroplane

Calculate the distance d , that the aeroplane has travelled along its path.

.....km [3]

TURN OVER FOR QUESTION 18

- 18 The table summarises the times spent on mobile phones by 100 girls during one day.

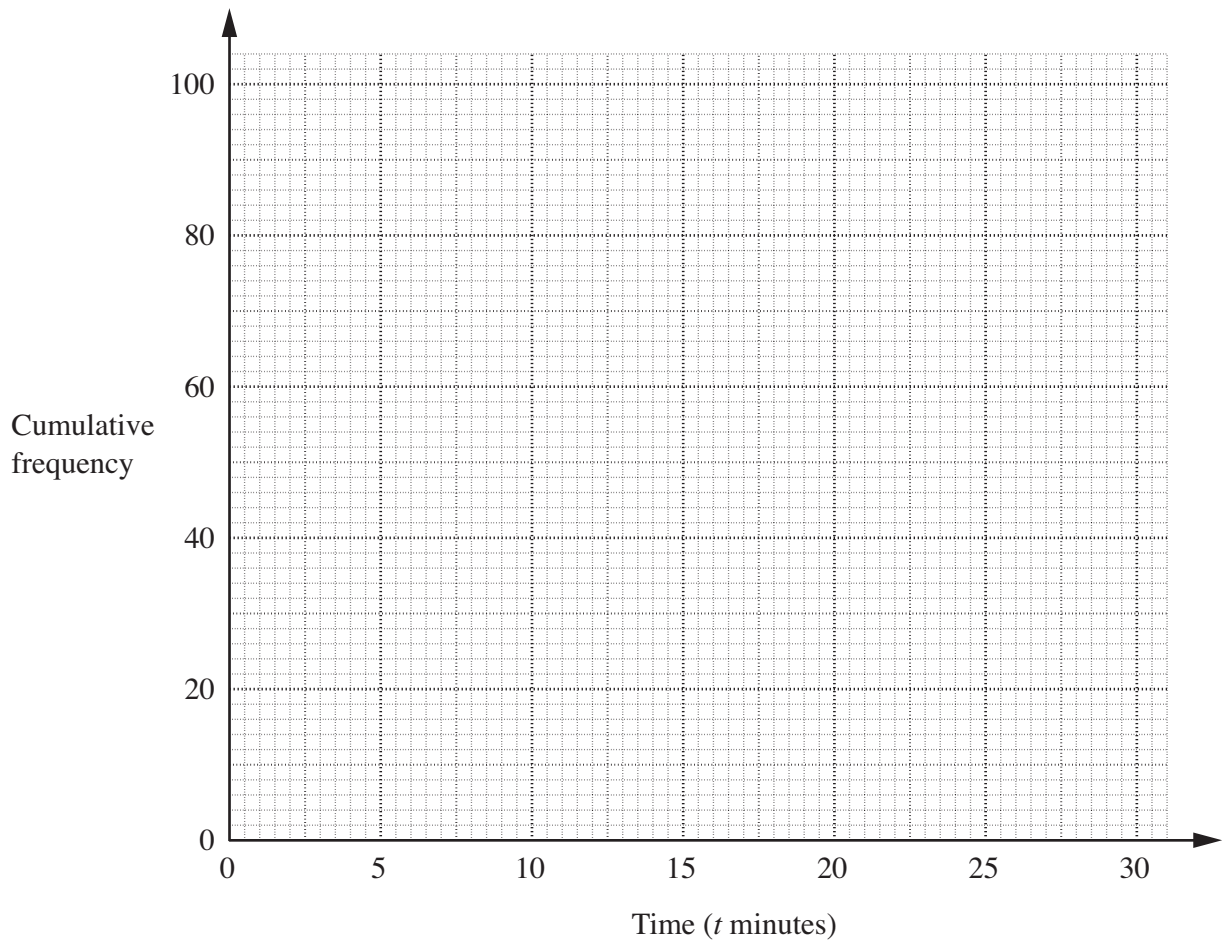
Time (t minutes)	$0 \leq t < 5$	$5 \leq t < 10$	$10 \leq t < 15$	$15 \leq t < 20$	$20 \leq t < 25$	$25 \leq t < 30$
Number of girls	8	12	18	32	20	10

- (a) Complete the cumulative frequency table.

Time (t minutes)	$t < 5$	$t < 10$	$t < 15$	$t < 20$	$t < 25$	$t < 30$
Cumulative Frequency	8	20				

[1]

- (b) On the grid, draw the cumulative frequency graph for these data.



[3]

(c) Use your graph to find

(i) the median,

(c)(i)minutes [1]

(ii) the interquartile range.

(ii)minutes [2]

(d) A similar survey was done with a group of 100 boys.
The median for the boys was 14 minutes.
The interquartile range for the boys was 18 minutes.

Make two comparisons between the results for the girls and the boys.

- 1
-
- 2
-[2]

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