

OXFORD CAMBRIDGE AND RSA EXAMINATIONS
General Certificate of Secondary Education

MATHEMATICS B (MEI)
PAPER 1 SECTION B
INTERMEDIATE TIER

1968/2312B

Tuesday **7 JUNE 2005** 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

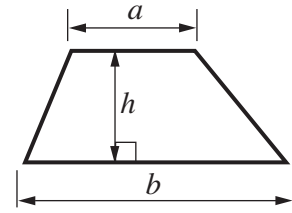
- The number of marks is given in brackets [] at the end of each question or part question.
- Unless otherwise instructed in the question, take π to be 3.142 or use the π button on your calculator.
- The total number of marks for this section is 36.
- Section B starts with question 11.

FOR EXAMINER'S USE	
Section B	

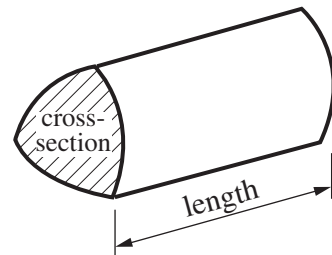
This question paper consists of 7 printed pages and 1 blank page.

Formulae Sheet: Intermediate Tier

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



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



11 (a) Simplify.

$$5x - 4y + 3x + 3y$$

(a)[2]

(b) Solve.

$$2x + 4 = 11$$

(b)[2]

(c) Use the formula $A = 6x$ to find x when $A = 54$.

(c)[2]

12

TOOL HIRE

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Details: An image of a slab cutter

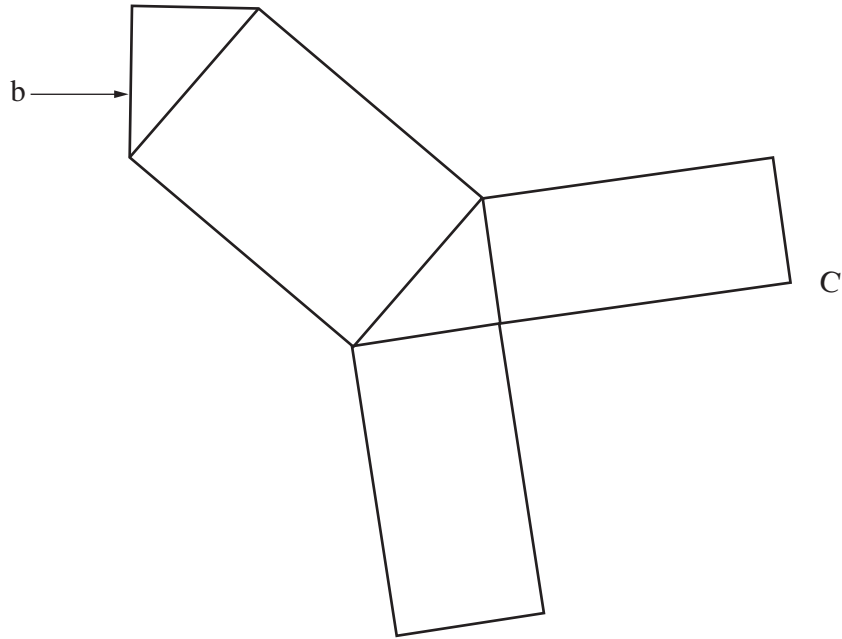
SLAB CUTTER £18.50 FOR THE FIRST DAY,
AND £3.25 FOR EACH ADDITIONAL DAY.

Stephanie hires a slab cutter.
She pays a total hire charge of £44.50.

For how many days does she hire the slab cutter?

.....days [3]

13



This net is folded to make a solid.

(a) What is the name of the solid?

(a)[1]

(b) Which edge will be joined to the one labelled b?
Label this edge with b.

[1]

(c) Which vertices will be joined to the one labelled C?
Label each of these vertices with C.

[2]

14 The Louisiana Superdome in New Orleans has a playing area in the shape of a circle. It has diameter of length 208 m.

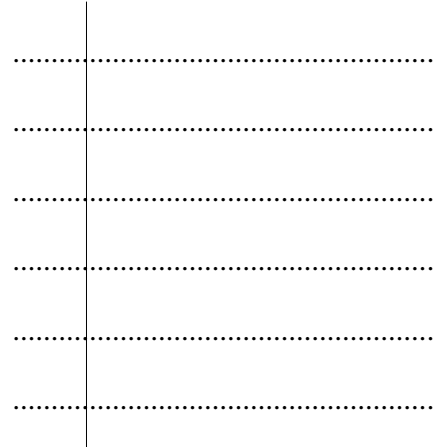
Calculate the circumference of the playing area.

.....m [2]

- 15** Twenty people took a reaction time test.
Their times, in seconds, are shown below.

4.1 3.2 3.0 5.7 6.2 5.3 5.4 3.6 4.6 4.7
3.4 5.0 5.1 4.5 3.4 4.4 4.2 5.9 5.3 4.2

Construct a stem and leaf diagram to represent these data.



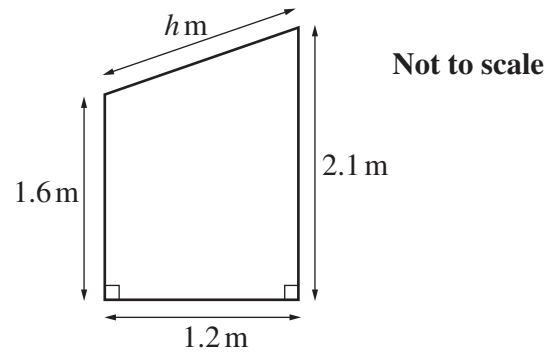
[3]

- 16** The Great Wall of China was once estimated to be 3946 miles long.
It has now been found that the actual length is 4163 miles.

Express the difference in these lengths as a percentage of the actual length.

.....% [3]

17 The diagram shows the cross-section of a garden shed.



(a) Calculate the area of the cross-section.

(a)m² [2]

(b) The volume of the shed is 6.4 m³. Calculate the length of the shed.

(b)m [2]

(c) Use Pythagoras' theorem to calculate h .

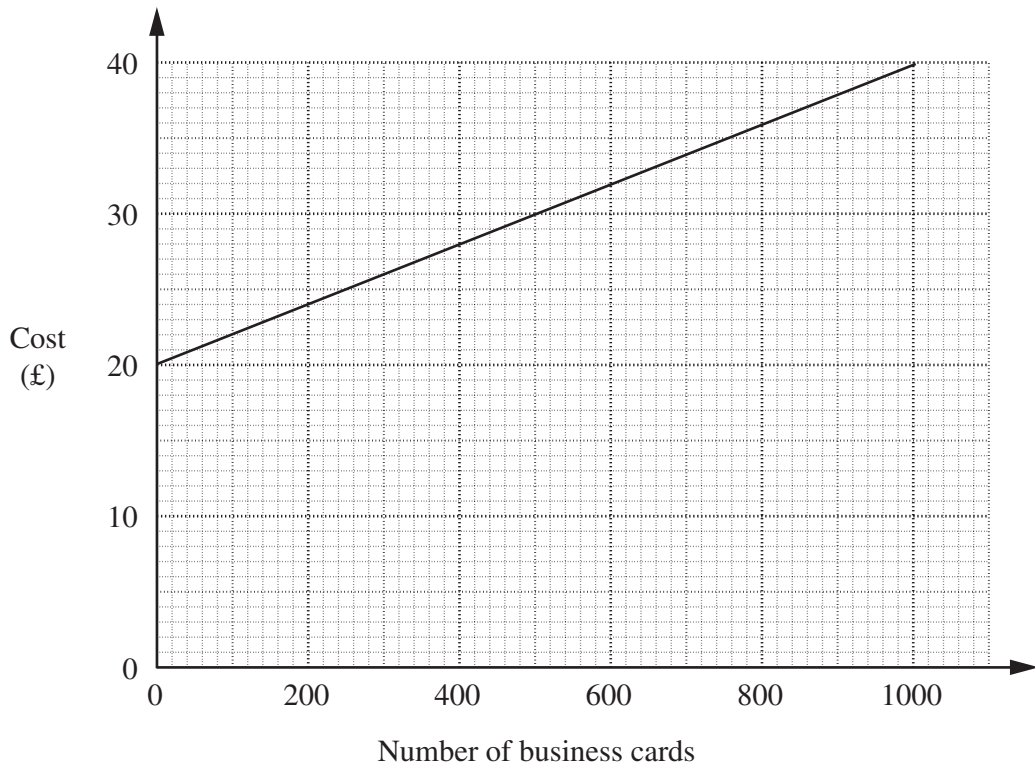
(c)[3]

18 Solve.

$$6x - 7 = 4(2 - x)$$

.....[3]

19 The graph shows the cost of printing personal business cards.



(a) (i) Calculate the gradient of the line.

(a)(i)[2]

(ii) Explain briefly what this gradient represents.

.....
[1]

(b) Find the equation of the line in the form $y = mx + c$, where £ y is the cost of printing x business cards.

(b)[2]

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