

OXFORD CAMBRIDGE AND RSA EXAMINATIONS
General Certificate of Secondary Education

MATHEMATICS B (MEI)
PAPER 1 SECTION A
INTERMEDIATE TIER

1968/2312A

Tuesday **7 JUNE 2005** Afternoon 45 minutes

Candidates answer on the question paper.

Additional materials:

- Geometrical instruments
- 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.
- The total number of marks for this section is 36.



WARNING

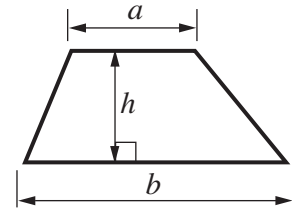
You are not allowed to use a calculator in Section A of this paper.

FOR EXAMINER'S USE	
Section A	
Section B	
TOTAL	

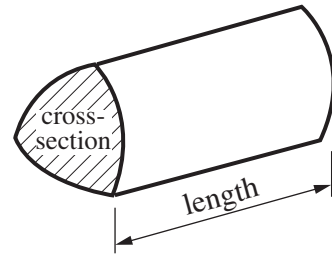
This question paper consists of 8 printed pages.

Formulae Sheet: Intermediate Tier

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

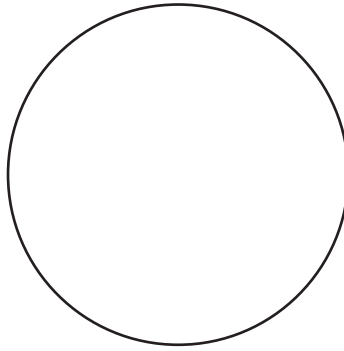


Volume of prism = (area of cross-section) \times length



3

1



On the diagram

(a) draw a tangent,

(b) shade a segment.

[2]

2

Always odd

Always even

Sometimes odd and sometimes even

In this question, n stands for an odd number.

Which of the above describes the following expressions?

Give a reason for each answer.

(a) $2n$,

.....

Reason

.....[1]

(b) $3n + 1$.

.....

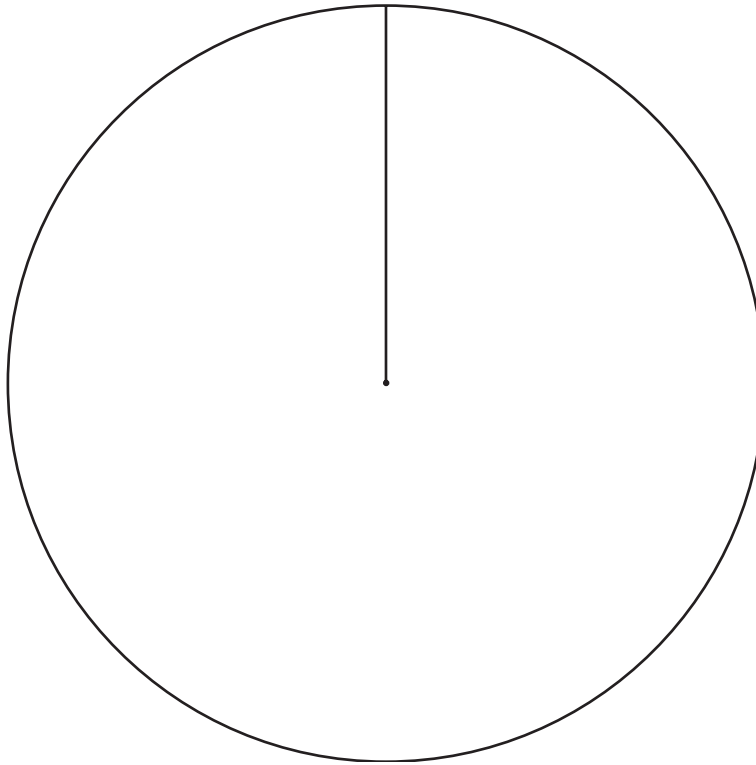
Reason

.....[2]

- 3 A group of 90 motorists were surveyed about the type of fuel their cars used. The results are shown in the table.

Fuel type	Unleaded	Diesel	Gas	LRP
Number of motorists	50	20	12	8

Draw a pie chart to represent these data.



[4]

- 4 Work out.

$$\frac{3}{5} - \frac{1}{3}$$

.....[2]

5 (a)

GREAT HOLIDAY SALE

All prices for adults reduced by 20%.
 Child sale prices are $\frac{1}{3}$ of adult sale prices.

The normal cost of a holiday was £300 for one adult.

Calculate the sale price of this holiday for

(i) one adult,

(a)(i) £.....[3]

(ii) one child.

(ii) £[2]

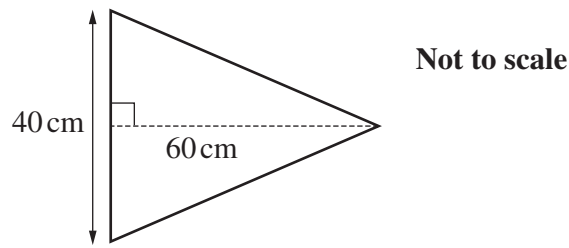
(b) The money paid for a holiday is divided between the travel agent and the tour operator in this ratio.

Travel agent	:	Tour operator
1	:	8

How much does the travel agent receive for a holiday costing £1800?

(b) £[2]

6 The diagram shows a flag used to mark a hole on a golf course.



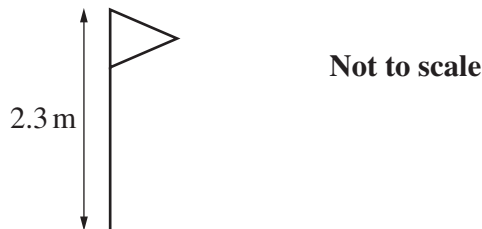
(a) (i) Calculate the area of the flag.

(a)(i)cm² [2]

(ii) Convert your answer for part (i) from square centimetres to square metres.

(ii)m² [2]

The flag is mounted on a pole.
The length of the pole is 2.3 m correct to one decimal place.



(b) What is the minimum length of the pole?

(b)m [1]

7 Estimate, showing your working.

$$\frac{511 \times 2.96}{0.302}$$

.....[3]

8 (a) Factorise.

$$8a - 12$$

(a)[1]

(b) Expand.

$$x(x^2 + 4)$$

(b)[2]

9 (a) What is the reciprocal of 4?

(a)[1]

(b) Express $\frac{4}{9}$ as a recurring decimal.

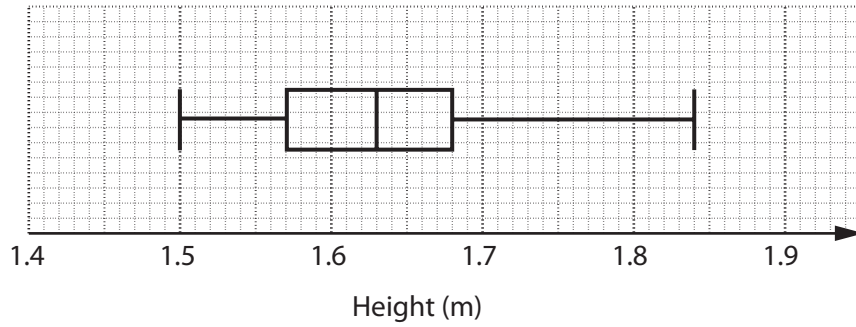
(b)[1]

(c) Evaluate 5^0 .

(c)[1]

TURN OVER FOR QUESTION 10

10 This box plot shows the heights of a group of 14 year old boys.



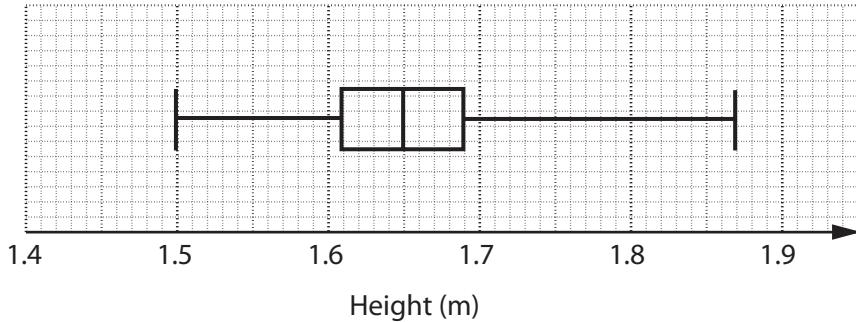
(a) (i) What is the height of the shortest boy?

(a)(i)m [1]

(ii) What is the median height?

(ii)m [1]

This box plot shows the heights of a group of 14 year old girls.



(b) Describe two differences between the heights of the boys and the heights of the girls.

1.
[1]

2.
[1]

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