

OXFORD CAMBRIDGE AND RSA EXAMINATIONS
General Certificate of Secondary Education

MATHEMATICS B (MEI)
PAPER 2 SECTION A
FOUNDATION TIER

1968/2314A

Monday **12 JUNE 2006** Morning 1 hour

Candidates answer on the question paper.

Additional materials:

Geometrical instruments

Tracing paper (optional)

Candidate Name	Centre Number	Candidate Number												
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TIME 1 hour

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 50.



WARNING

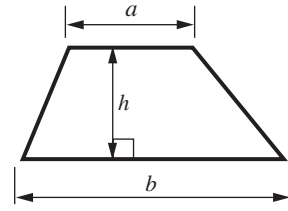
You are not allowed to use a calculator in Section A of this paper.

FOR EXAMINER'S USE	
Section A	
Section B	
TOTAL	

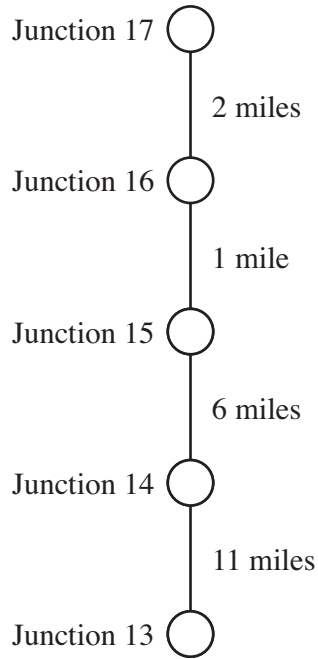
This question paper consists of 14 printed pages and 2 blank pages.

Formula Sheet: Foundation Tier

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



1 This map shows the distances in miles between the junctions on a section of motorway.



(a) How far is it between Junction 13 and Junction 17?

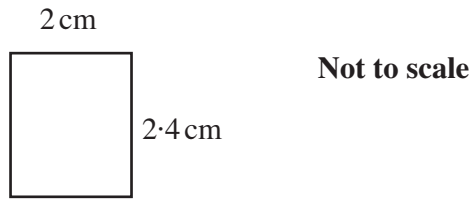
(a)miles [1]

(b) Janet works 5 days a week.
 She drives from Junction 13 to Junction 17 to go to work.
 She drives from Junction 17 to Junction 13 on the way home.

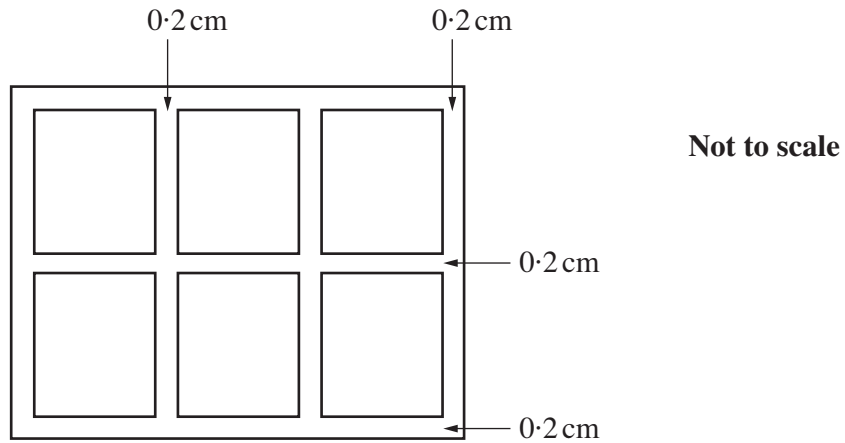
How many miles does Janet drive, to and from work, on the motorway in a week?

(b)[2]

- 2 (a) Stamps are 2.4 cm high and 2 cm wide.



A book of stamps has 6 stamps on a page.
There is 0.2 cm between each stamp and 0.2 cm between each stamp and the edge of the page.



- (i) How wide is the page?

(a)(i)cm [2]

- (ii) How high is the page?

(ii)cm [2]

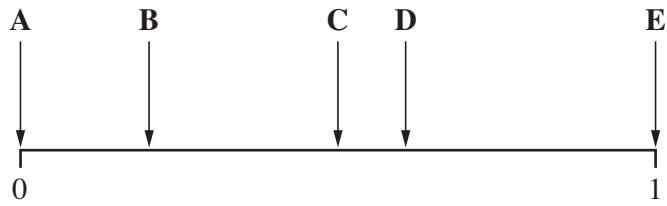
(b) Sinead needs to put stamps totalling 85 pence on a package.
She only has 10 pence and 15 pence stamps.

(i) Show one way in which she can make 85 pence using 10 pence and 15 pence stamps.

(b)(i)[1]

(ii) Find all the other ways she can make 85 pence using 10 pence and 15 pence stamps. [2]

- 3 Three boys, John, Pete and Robert, and two girls, Kate and Sarah, go bowling. They put their names into a hat and pick one out at random to see who goes first.



Match a letter on the probability scale with each of the following.

- (a) Sarah's name is picked.

(a) Letter[1]

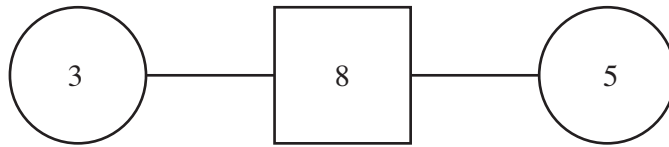
- (b) A boy's name is picked.

(b) Letter[1]

- (c) The name picked begins with M.

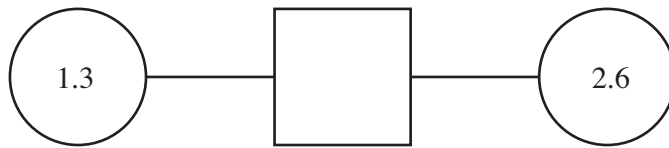
(c) Letter[1]

- 4 In each of these diagrams the numbers in the circles must add up to the number in the square. Here is an example.



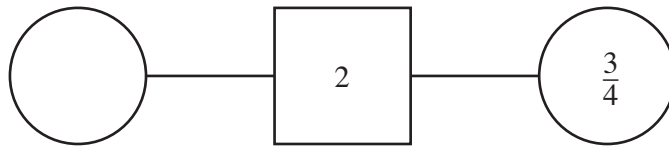
Complete these diagrams.

(a)



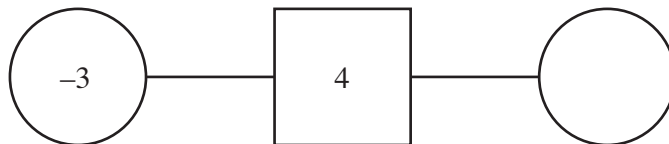
[1]

(b)



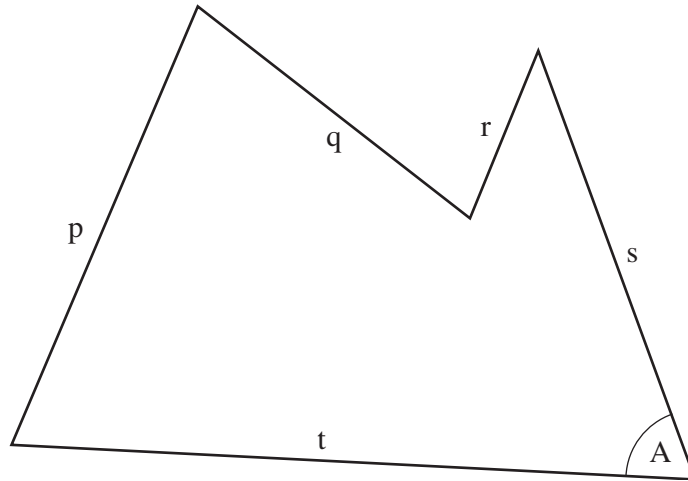
[1]

(c)



[1]

5 Huw drew this shape.



(a) Measure line p.

(a)cm [1]

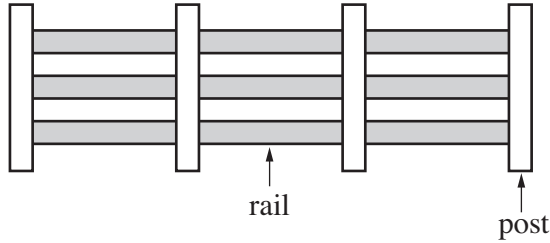
(b) Measure angle A.

(b)° [1]

(c) Which two lines are parallel?

(c) and[1]

- 6 Mrs Davies is building a fence.
She uses 3 rails between each pair of posts.



- (a) Complete this table showing the number of rails that are needed for different numbers of posts.

Number of posts	2	3	4	5	6
Number of rails	3	6	9		

[1]

- (b) Mrs Davies uses 10 posts.

How many rails does she need?

(b)[2]

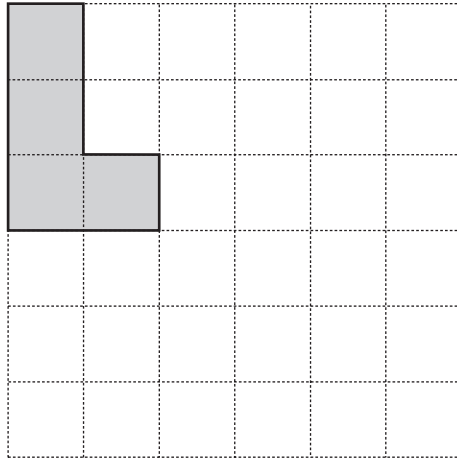
- (c) Mr Lawson is building the same type of fence.

He uses 60 rails.

How many posts does he need?

(c)[2]

- 7 Complete the design so that the whole grid has rotational symmetry of order 4. Shade in as few squares as possible.



[3]

- 8 Work out.

(a) $2 + 3 \times 5$

(a)[1]

(b) $6 \times (7 - 2)$

(b)[1]

9 Gheta and Emily each have a collection of beads.

- (a) Gheta has 35 beads in her collection.
There are 16 red, 11 blue and 8 green beads.
Gheta picks a bead from her collection without looking.

What is the probability that she picks a blue bead?

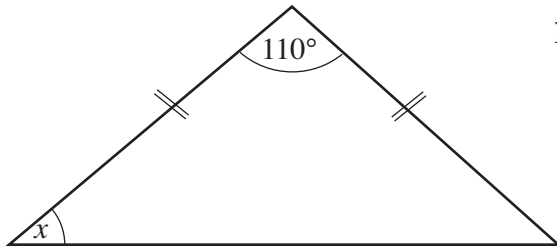
(a)[2]

- (b) Emily has only gold and silver beads in her collection.
She has 5 gold beads.
Emily picks a bead from her collection without looking.
The probability that she picks a gold bead is $\frac{1}{4}$.

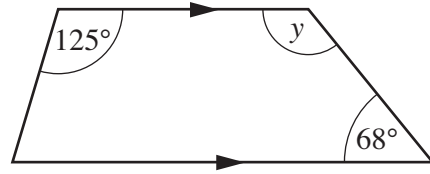
How many silver beads are there in Emily's collection?

(b)[2]

10



Not to scale



(a) Find these angles, giving your reasons.

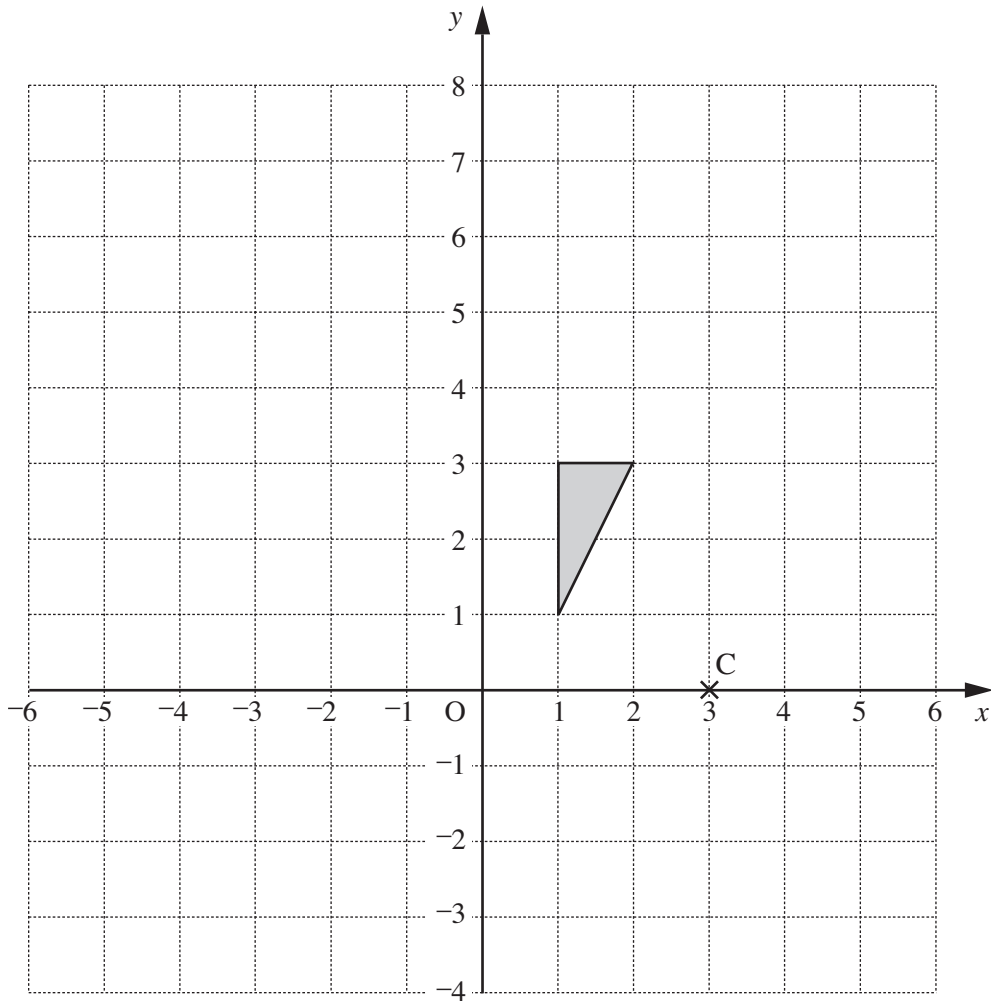
$x = \dots\dots\dots^\circ$ because $\dots\dots\dots$
 $\dots\dots\dots$ [3]

$y = \dots\dots\dots^\circ$ because $\dots\dots\dots$
 $\dots\dots\dots$ [2]

(b) What is the mathematical name for the quadrilateral which contains angle y ?
 Give the reason for your decision.

Name: $\dots\dots\dots$ because $\dots\dots\dots$
 $\dots\dots\dots$ [2]

11



Enlarge the triangle with scale factor 2 and centre C.

[3]

TURN OVER FOR QUESTIONS 12 AND 13

12 Solve.

(a) $\frac{x}{4} = 7$

(a)[1]

(b) $5x - 2 = 3x + 5$

(b)[3]

13 Work out.

(a) $7 \times \frac{3}{5}$

(a)[1]

(b) $\frac{4}{5} - \frac{2}{3}$

(b)[2]

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1968/2314A Jun06