

**GENERAL CERTIFICATE OF SECONDARY EDUCATION
MATHEMATICS B (MEI)**

B291A

Paper 1 Section A
(Foundation Tier)

Candidates answer on the question paper

OCR Supplied Materials:

None

Other Materials Required:

- Geometrical instruments
- Tracing paper (optional)

**Monday 18 May 2009
Afternoon**

Duration: 45 minutes



Candidate Forename		Candidate Surname	
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Centre Number						Candidate Number				
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INSTRUCTIONS TO CANDIDATES

- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Show your working. Marks may be given for a correct method even if the answer is incorrect.
- Answer **all** the questions.
- Do **not** write in the bar codes.
- Write your answer to each question in the space provided, however additional paper may be used if necessary.

INFORMATION FOR CANDIDATES

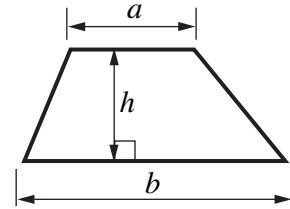
- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this Section is **36**.
- This document consists of **12** pages. Any blank pages are indicated.

WARNING

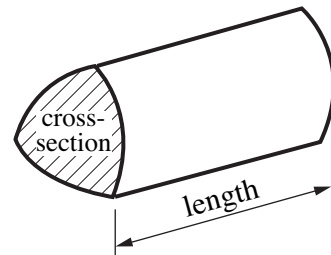
No calculator can be used for Section A of this paper

Formulae Sheet: Foundation Tier

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



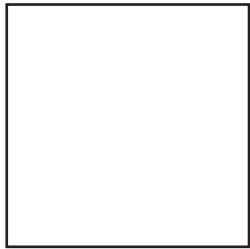
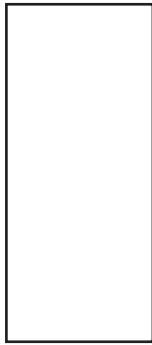
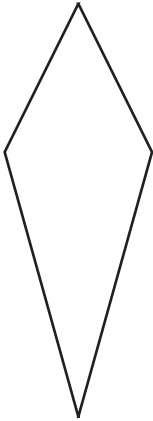
$$\text{Volume of prism} = (\text{area of cross-section}) \times \text{length}$$



PLEASE DO NOT WRITE ON THIS PAGE

1 Label each shape by choosing the correct name from the list.

- | | | |
|---------------|---------|-----------|
| parallelogram | kite | trapezium |
| rectangle | rhombus | square |



[5]

2 Work out the following.

(a) $173 + 282$

(a) [1]

(b) $908 - 364$

(b) [1]

(c) 231×14

(c) [2]

3 (a) Write the fraction $\frac{3}{100}$ as a decimal.

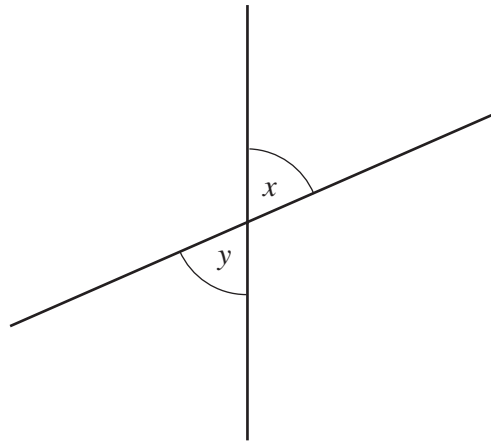
(a) [1]

(b) Arrange these in order of size, starting with the smallest.

0.6 0.09 0.38

(b) , , [1]
smallest

4 (a) The diagram shows two intersecting straight lines.



(i) What type of angle is x ?
Choose from this list.

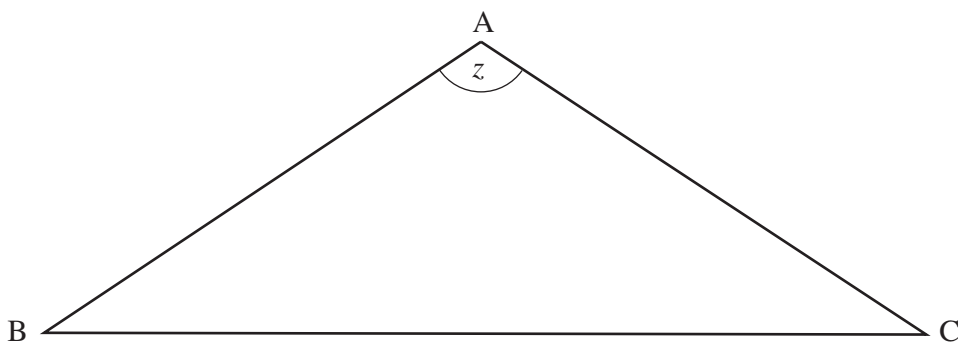
- | | | | |
|--------|--------|-------------|-------|
| reflex | obtuse | right angle | acute |
|--------|--------|-------------|-------|

(a)(i) [1]

(ii) Without measuring, how do you know that angle y is equal to angle x ?

Reason [1]

(b) The diagram shows a triangle.



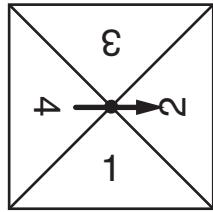
(i) Measure the line BC.

(b)(i)cm [1]

(ii) Measure the angle z .

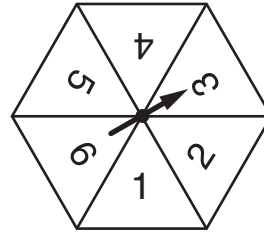
(ii)° [1]

5



Spinner A

6



Spinner B

Ronnie spins these two spinners.
 His total is the sum of the scores on the two spinners.
 The diagram shows the outcome (2, 3) which gives a total of 5.

(a) What is the smallest possible total?

(a) [1]

(b) What is the largest possible total?

(b) [1]

(c) When showing the outcomes, the score on Spinner A is shown first.

These outcomes each give a total of six.

(1, 5) (2, 4) (3, 3) (4, 2)

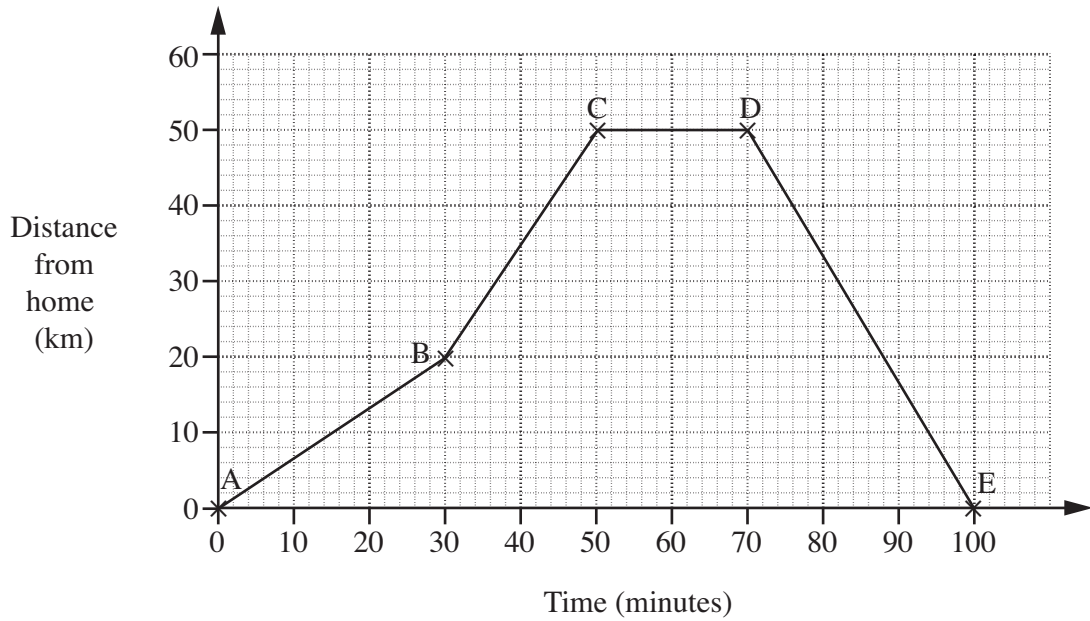
Why is the outcome (5, 1) impossible?

..... [1]

(d) List the outcomes which give a total of seven.
 You may not need all the spaces.

(,) (,) (,) (,) (,) [1]

- 6 Donna travelled by car to take flowers to her grandparents. The graph represents her journey.



- (a) How far did she travel in the first thirty minutes?

(a) km [1]

- (b) How long did she stay at her grandparents' house?

(b)mins [1]

- (c) What does section DE of the graph represent?

..... [1]

- 7 A group of 60 students vote for an end of term activity. The results are shown in the table.

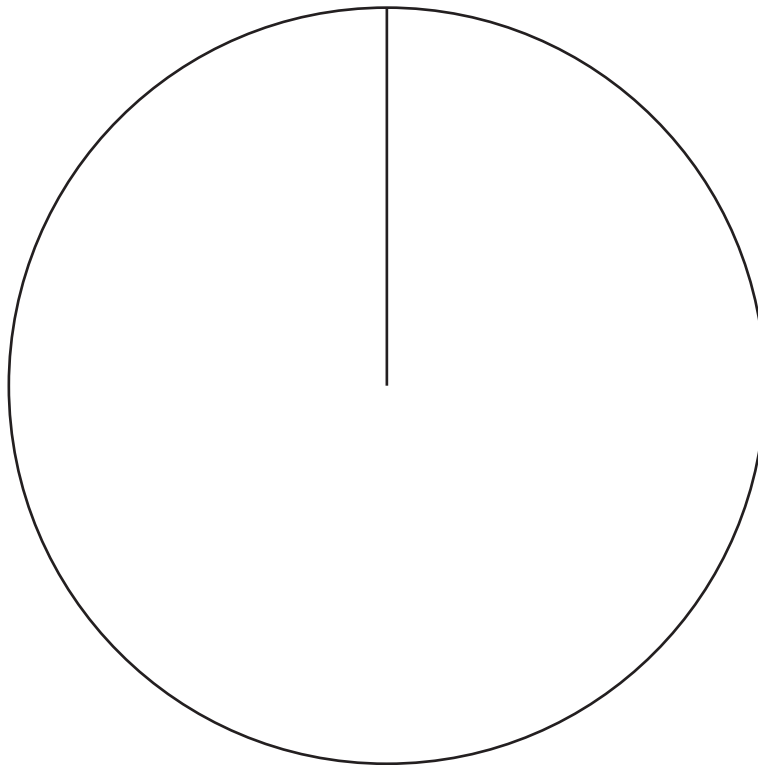
Activity	Number of votes
Video	25
Number game	5
Quiz	10
Music	20

- (a) Why does a total of 60 make it easy to work out the angles for a pie chart?

..... [1]

- (b) Draw a pie chart to show this information.

[4]



8 (a) Simplify the following expressions.

(i) $4x + x + 3x$

(a)(i) [1]

(ii) $9y - 2y + 5y$

(ii) [1]

(b) Work out $5x + 7y$ when $x = 4$ and $y = -2$.

(b) [2]

(c) Solve the following equations.

(i) $4(x - 3) = 14$

(c)(i) [3]

(ii) $\frac{x}{4} - 1 = 7$

(ii) [2]

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