

GENERAL CERTIFICATE OF SECONDARY EDUCATION
MATHEMATICS B (MEI)
PAPER 1 SECTION B
FOUNDATION TIER
MONDAY 4 JUNE 2007

F B261B

Afternoon

Time: 45 minutes

Additional materials: Geometrical instruments
Scientific or graphical calculator
Tracing paper (optional)



* C U P / T 4 0 9 0 6 *

Candidate
Name

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Centre
Number

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Candidate
Number

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INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above.
- Answer **all** the questions.
- Use blue or black ink. Pencil may be used for graphs and diagrams only.
- 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.
- Do **not** write in the bar code.
- Do **not** write outside the box bordering each page.
- WRITE YOUR ANSWER TO EACH QUESTION IN THE SPACE PROVIDED. ANSWERS WRITTEN ELSEWHERE WILL NOT BE MARKED.

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.

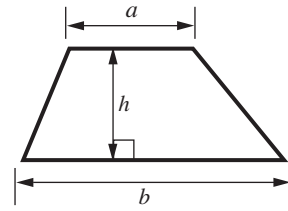
FOR EXAMINER'S USE

Section B

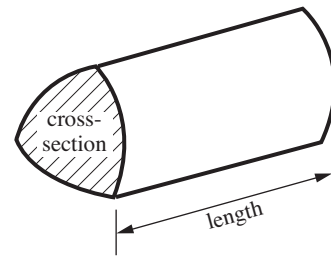
This document consists of **11** printed pages and **1** blank page.

Formulae Sheet: Foundation Tier

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



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



PLEASE DO NOT WRITE ON THIS PAGE

- 11 (a) Chris visits a Garden Centre.
Parts of his shopping bill are missing.

Fill in the missing parts.



8 plant pots @ 70p = £.....

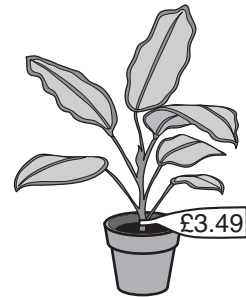
..... packets of seeds @ 60p = £3.00

Total = £.....

[4]

- (b) Liz buys 3 plants.
Each plant costs £3.49.
She pays with a £20 note.

How much change should she get?



(b) £ [2]

12 (a) Solve.

(i) $p - 3 = 7$

(a)(i) [1]

(ii) $6q = 42$

(ii) [1]

(b) Simplify.

$$3r + r + 4r$$

(b) [1]

(c) Factorise completely.

$$4x + 8$$

(c) [1]

(d) N represents a whole number.

What type of number is $4N$?

(d) [1]

13 These are Mrs Marshall's gas meter readings.

Date	Units
February 28 th 2007	42717
November 30 th 2006	41825

(a) How many units did Mrs Marshall use in this period?

(a) [1]

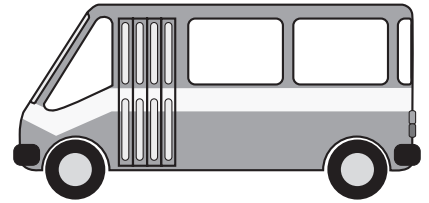
(b) Complete her gas bill.

..... units @ 7p per unit	£
Standing charge	£ 18 . 60
Total charge	£ .

[3]

14 The cost of hiring a minibus is calculated using this formula.

$\text{Cost in pounds} = 0.2 \times \text{number of miles} + 85.50$



(a) Work out the cost for 100 miles.

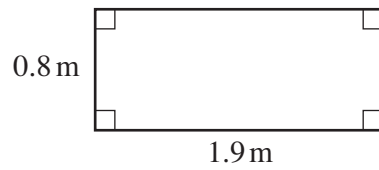
(a) £..... [2]

(b) Mr Adams paid £137.90 for the hire of the minibus.

Work out how far he travelled.

(b) miles [2]

15 The diagram represents a cupboard top.



Not to scale

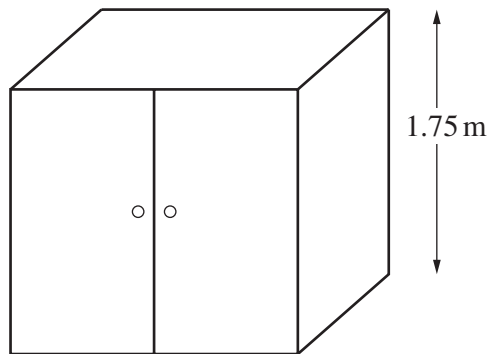
(a) Calculate

(i) the perimeter of the top,

(a)(i)m [1]

(ii) the area of the top.

(ii)m² [2]



(b) The height of the cupboard is 1.75 m.

Calculate the volume of the cupboard.

(b)m³ [2]

16 Here are Abdul's test scores.

75 62 33 51 70 29 30 68

Calculate the mean.

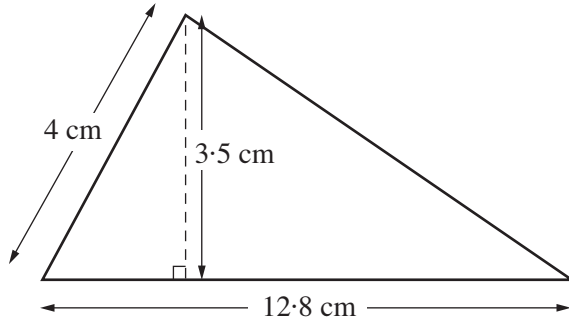
..... [3]

17 The total bill for a bicycle repair was £28.70.
The cost of new parts was £12.45.

Work out £12.45 as a percentage of £28.70.
Give your answer to 1 decimal place.

..... % [3]

18



Not to scale

Natasha writes

The area of this triangle is
 $12.8 \times 4 = 51.2 \text{ cm}^2$.

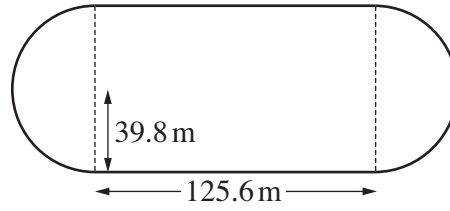
Explain what she has done wrong and write down the correct calculation.

.....
.....
..... [2]

TURN OVER FOR QUESTION 19

10

- 19 A cycle track has two semi-circular ends of radius 39.8 m and two straights of length 125.6 m.



Not to scale

Calculate the total distance around the cycle track.

..... m [4]

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