MATHEMATICS B (MEI)   **1968/2311B**

PAPER 1 SECTION B
FOUNDATION TIER

| Tuesday | **7 JUNE 2005** | Afternoon | 45 minutes |

Candidates answer on the question paper.
Additional materials:
    Electronic calculator
    Geometrical instruments
    Tracing paper (optional)

Candidate Name	Centre Number	Candidate Number

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.
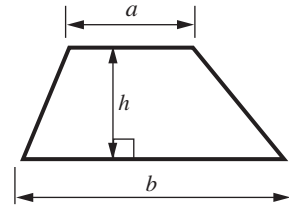- Section B starts with question 11.

FOR EXAMINER'S USE
Section B	

This question paper consists of 10 printed pages and 2 blank pages.

Formula Sheet: Foundation Tier

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

11 These are Mr Jones' electricity meter readings.

DATE	UNITS
January 31st 2005	70616
October 31st 2004	69289

(a) How many units did Mr Jones use in this period?

(a) ....[1]

(b) Complete his electricity bill.

```
.................... units @ 6p per unit     £ ......... . .........

                   Standing charge          £    10 . 46
                                             _____
                   Total charge             £         .
                                             _____
```

[3]

[Turn over

12

SQUARE   CUBE   MULTIPLE

FACTOR   EVEN

(a) Choose a word from the list to complete the following.

(i) 10 is an .... number.

(ii) 4 is a .... of 20.

(iii) 25 is a .... number.
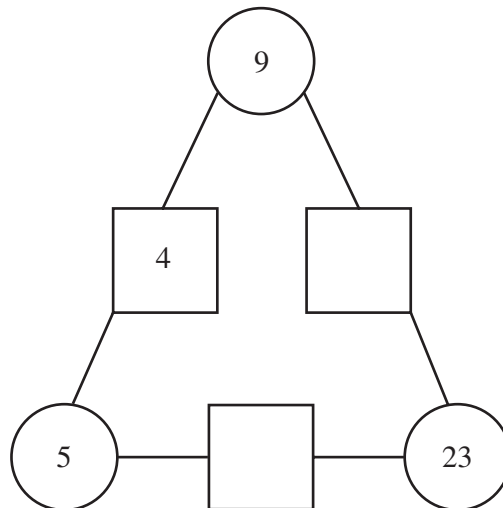
[3]

(b) The number in each square is the difference between the numbers in the circles on either side.

Fill in the two blank squares.

[2]

13 Sarah counted the numbers of items in ten school bags.

Here are her results.

<div align="center">27   13   17   22   41   15   19   25   14   18</div>

Work out

(a) the range,

(a) ....[1]

(b) the mean number of items.

(b) ....[3]

14 Peter drew this plan of his rectangular garden.
The scale is 1 cm to 5 m.

Find the length and width of his garden.

Length ....m

Width ....m

[3]

[Turn over

15 (a) Use $p = 8$ and $q = 3$ to work out the value of

$$2p - q.$$

(a) ....[2]

(b) Solve.

$$3x = 21$$

(b) ....[1]

16 Match each word with its correct definition.

DIAMETER is already done for you.

	A straight line which touches a circle at one point only.
TANGENT	
	Part of the circumference of a circle.
CHORD	
	A straight line across a circle passing through the centre.
DIAMETER	
	A straight line across a circle.
ARC	
	A straight line from the centre of a circle to its circumference.

[3]

17

TOOL HIRE

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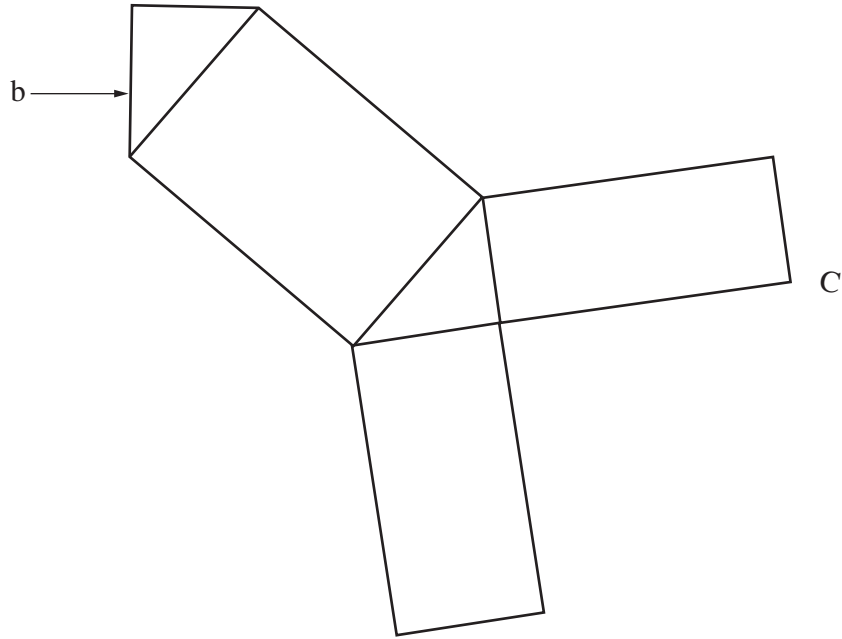
Details: An image of a slab cutter

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]

[Turn over

18

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]

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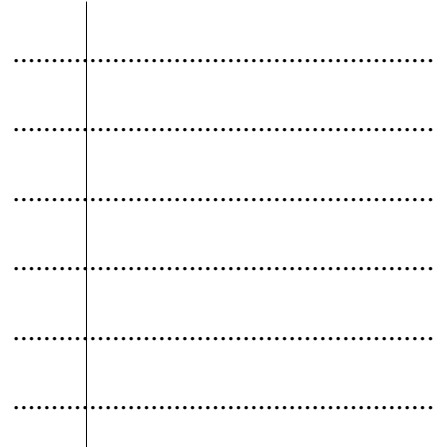
Calculate the circumference of the playing area.

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

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

$$4.1 \quad 3.2 \quad 3.0 \quad 5.7 \quad 6.2 \quad 5.3 \quad 5.4 \quad 3.6 \quad 4.6 \quad 4.7$$

$$3.4 \quad 5.0 \quad 5.1 \quad 4.5 \quad 3.4 \quad 4.4 \quad 4.2 \quad 5.9 \quad 5.3 \quad 4.2$$

Construct a stem and leaf diagram to represent these data.

......|..

......|..

......|..

......|..

......|..

......|..

[3]

TURN OVER FOR QUESTION 21

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

Not to scale

2.1 m

1.6 m

1.2 m
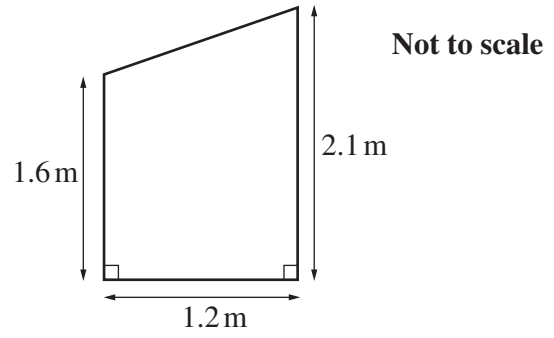
Calculate the area of the cross-section.

.....................................m^2 [2]

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