THIS IS A LEGACY SPECIFICATION

OCR
RECOGNISING ACHIEVEMENT

M7

GENERAL CERTIFICATE OF SECONDARY EDUCATION
MATHEMATICS C (GRADUATED ASSESSMENT) B277A
MODULE M7 – SECTION A

11LMP01015

Candidates answer on the question paper.

OCR supplied materials:
None

Other materials required:
- Geometrical instruments
- Tracing paper (optional)

Thursday 20 January 2011
Morning

Duration: 30 minutes

B277A

Candidate forename		Candidate surname	

Centre number						Candidate number				

MODIFIED LANGUAGE

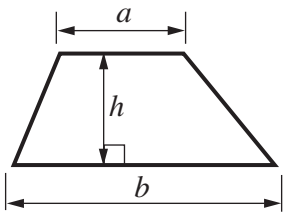
INSTRUCTIONS TO CANDIDATES
- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Show your working. Marks may be given for a correct method even if the answer is incorrect.
- Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).
- Answer **all** the questions.
- Do **not** write in the bar codes.

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 **25**.
- This document consists of **8** pages. Any blank pages are indicated.

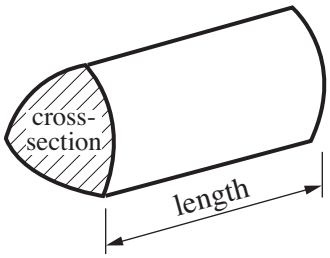
WARNING
No calculator can be used for Section A of this paper

Formulae Sheet

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

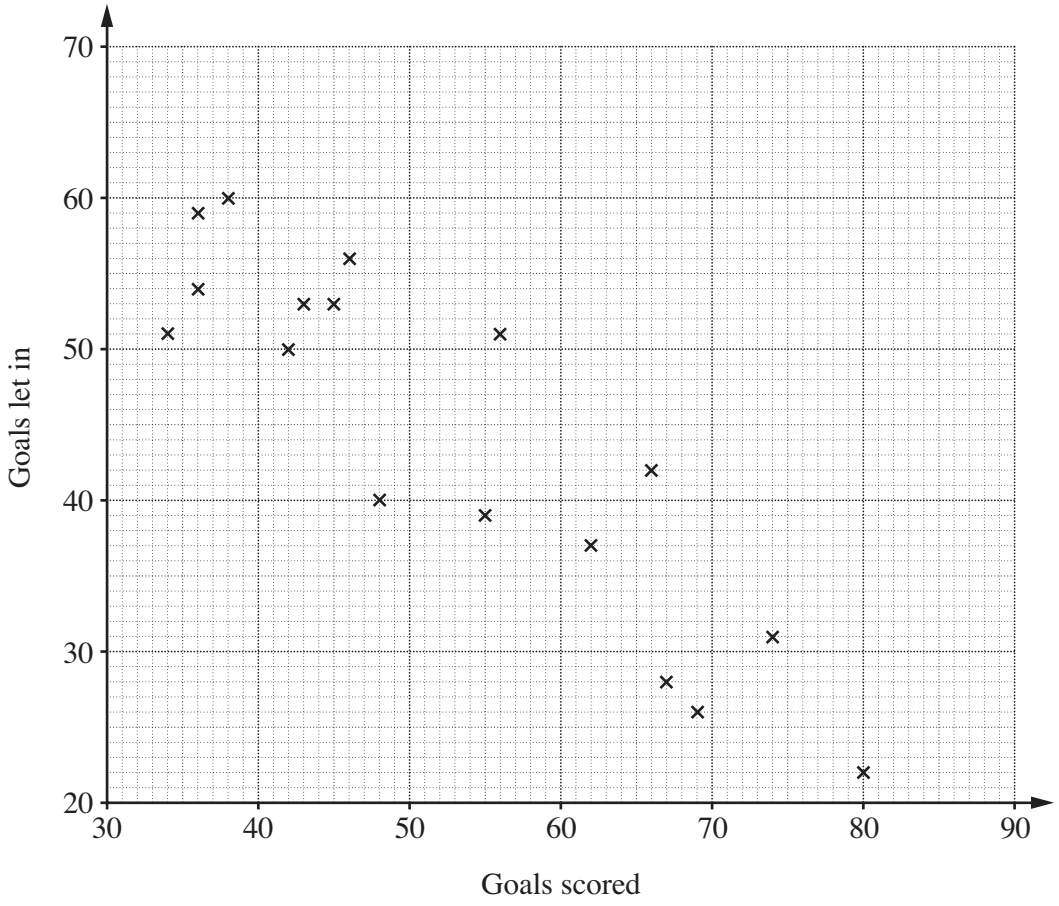


Volume of prism = (area of cross-section) × length



PLEASE DO NOT WRITE ON THIS PAGE

1 The scatter graph shows the numbers of goals scored by some football teams in a season and the numbers of goals that they let in.



(a) What word describes the type of correlation?

(a)..... **[1]**

(b) Draw a line of best fit on the scatter graph. **[1]**

(c) Another team scored 50 goals.

Use your line of best fit to estimate the number of goals let in by this team.

(c)..... **[1]**

2 **(a)** What are the two square roots of 25?

(a) ..... and ..... **[1]**

(b) Write each of the following as a single power of 5.

(i) $5^9 \times 5^3$

(b)(i)..... **[1]**

(ii) $5^9 \div 5^3$

(ii) ..... **[1]**

(c) Change $\frac{5}{11}$ to a recurring decimal.

(c)..... **[2]**

3 **(a)** A power company charges a standing charge of £18 each quarter plus £0·14 for each unit of electricity used.

Write a formula for the cost, £C, of a quarterly bill for a customer using n units of electricity.

(a) ..... **[2]**

(b) Another company uses this formula to calculate quarterly bills.

$$C = 0{\cdot}2n + 15$$

Rearrange this formula to make n the subject.

(b) ..... **[2]**

4 Multiply out.

$$(x + 4)(x - 7)$$

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

5 Solve.

(a) $\frac{x}{6} = 12$

(a)..... **[1]**

(b) $11 = 2(2y + 3)$

(b) ..... **[3]**

6 **(a)** The answers to these calculations are wrong.

Explain how you can tell the answers are wrong.
Do not do the full calculation.

(i) $18{\cdot}6 \times 1{\cdot}2 = 15{\cdot}5$

.....

..... **[1]**

(ii) $\frac{4{\cdot}88}{0{\cdot}4} = 122$

.....

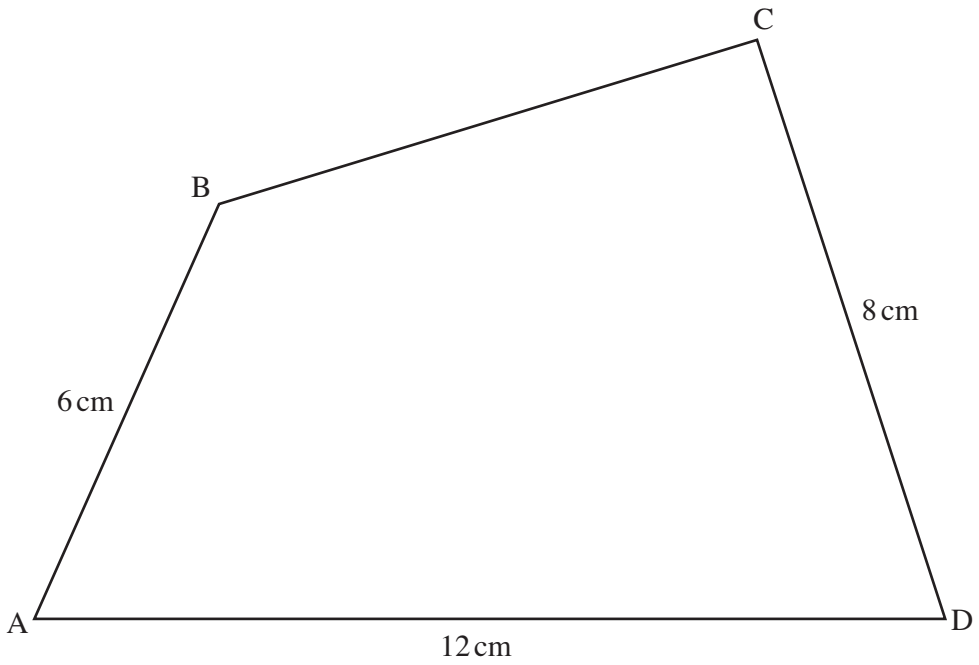
..... **[1]**

(b) Write down the reciprocal of $\frac{2}{5}$.

(b) ..... **[1]**

TURN OVER FOR QUESTION 7

7 **Use ruler, compasses and pencil only to answer this question.**
Leave in all your construction lines.



Shade the region inside the quadrilateral ABCD which is

- nearer to AB than to AD,

  and

- more than 7 cm from C. **[4]**