THIS IS A LEGACY SPECIFICATION

OCR
RECOGNISING ACHIEVEMENT

M6

Monday 16 January 2012 – Morning

GCSE MATHEMATICS C (GRADUATED ASSESSMENT)

B276A MODULE M6 – SECTION A

B21651O112

Candidates answer on the Question Paper.

OCR supplied materials:
None

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

Duration: 30 minutes

B276A

Candidate forename		Candidate surname	

Centre number						Candidate number				

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. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions.
- 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).
- 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.

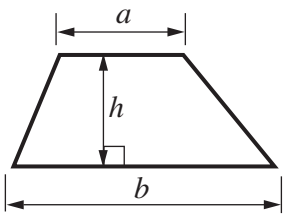
WARNING

No calculator can be used for Section A of this paper

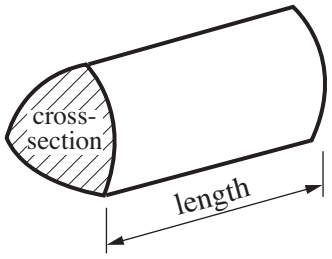
This paper has been pre modified for carrier language

Formulae Sheet

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



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



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1 **(a)** Work out.

(i) $(3 - 8)^2$

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

(ii) $3 \times 2^3 - 7$

(ii) ..... **[2]**

(iii) $\frac{3}{5} \div \frac{5}{6}$

(iii) ..... **[2]**

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

$\frac{3}{4}$ $\frac{2}{5}$ $\frac{9}{10}$ $\frac{7}{20}$ $\frac{1}{2}$

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

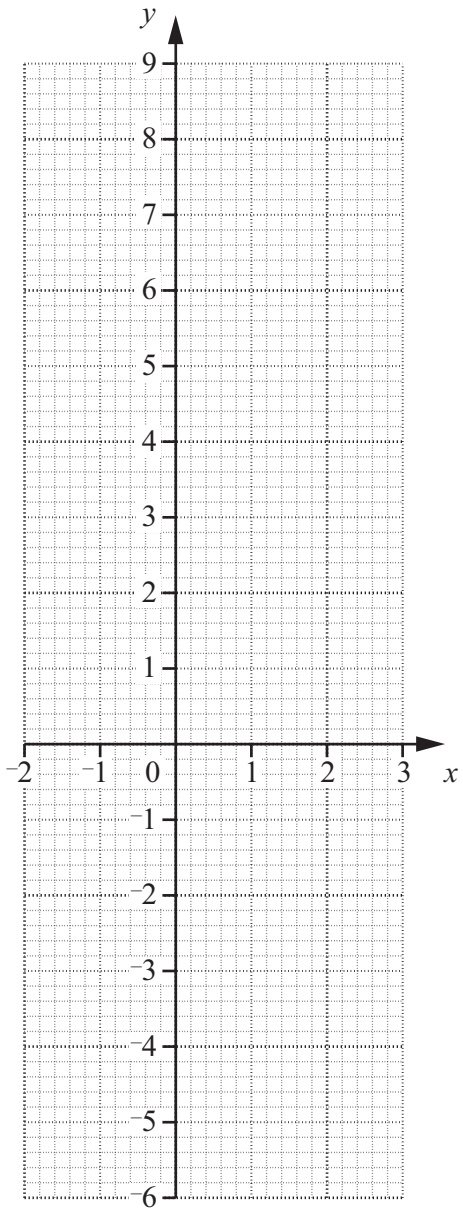
smallest

2 **(a)** Complete the table of values for $y = 3x + 2$.

x	-2	-1	0	1	2
y	-4		2		8

[1]

(b) Draw the graph of $y = 3x + 2$.



[2]

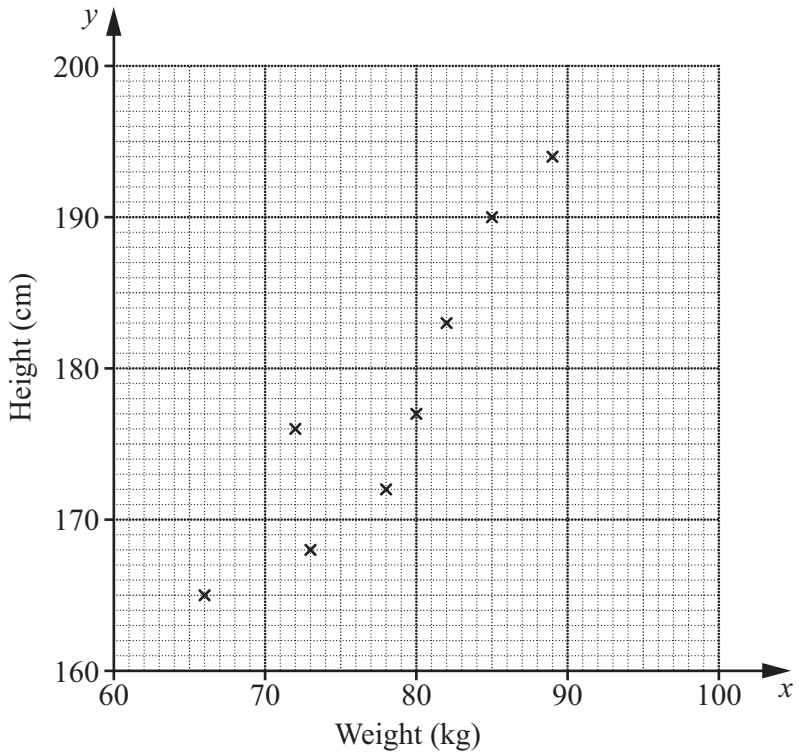
(c) Use your graph to find the value of x when $y = 4$.

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

3 Jamilla records the weight and height of each of ten students in Year 11.

Weight (kg)	72	89	78	73	85	82	66	80	92	86
Height (cm)	176	194	172	168	190	183	165	177	195	186

The results for the first eight students are shown on the scatter graph.



(a) Complete the scatter graph. **[1]**

(b) Describe the relationship between height and weight.

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

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

(d) Another student in Year 11 has height 174 cm.

Use your line of best fit to estimate the weight of this student.

(d) ..... kg **[1]**

4 **(a)** Multiply out.

$$2(3x - 4)$$

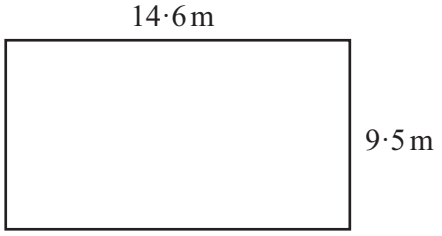
(a) ..... **[1]**

(b) Factorise.

$$25y + 10$$

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

5 Bob is going to lay turf to make a rectangular lawn, as shown below.



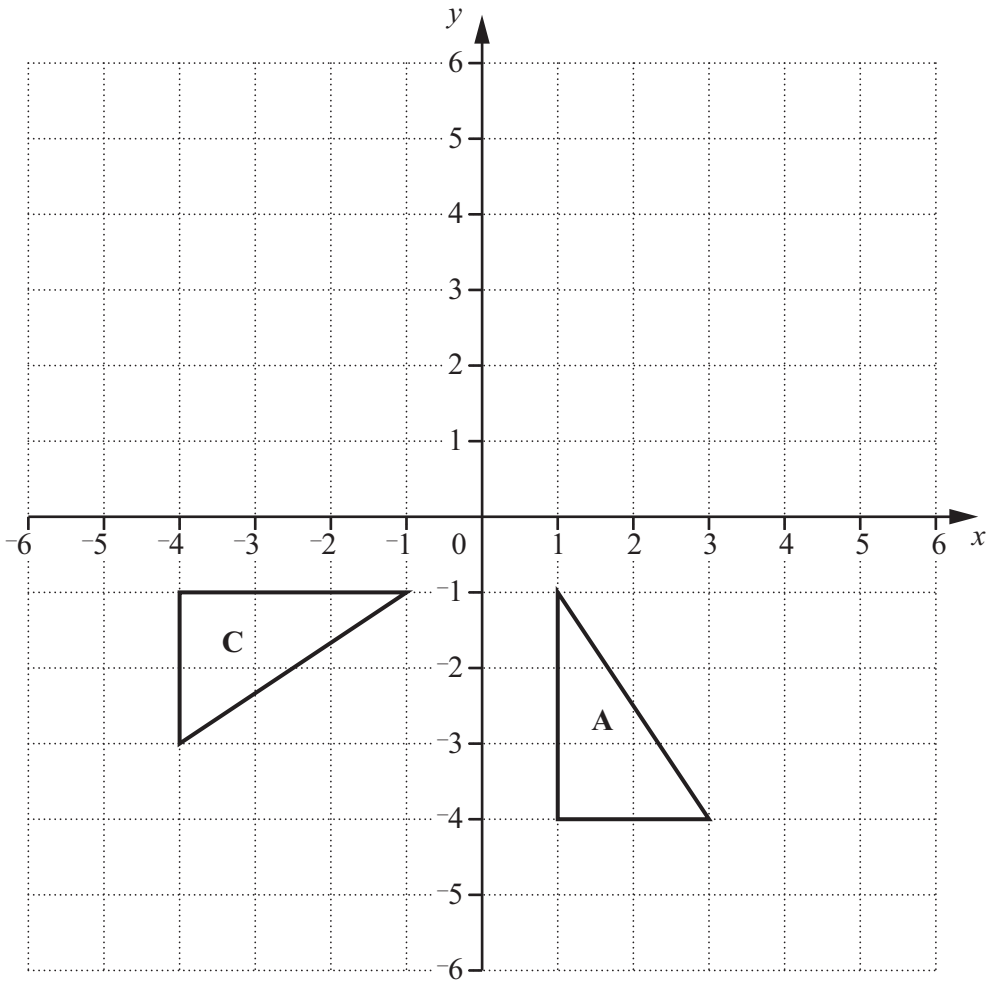
Not to scale

Bob buys 150 m^2 of turf.

How much turf will Bob have left over?

..... m^2 **[4]**

6 Triangles **A** and **C** are drawn on a coordinate grid.



(a) Translate triangle **A** 3 squares left and 5 squares up.
Label the image **B**. **[1]**

(b) Describe fully the **single** transformation which maps triangle **A** onto triangle **C**.

.....

..... **[3]**

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