OCR RECOGNISING ACHIEVEMENT

M5

GENERAL CERTIFICATE OF SECONDARY EDUCATION

MATHEMATICS C (GRADUATED ASSESSMENT)

MODULE M5 – SECTION A

B275A

Candidates answer on the Question Paper

OCR Supplied Materials:
None

Other Materials Required:
*   Geometrical instruments
*   Tracing paper (optional)
*   Pie chart scale (optional)

Monday 8 March 2010
Morning

Duration: 30 minutes

Candidate Forename		Candidate Surname	

Centre Number						Candidate Number					

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

WARNING

No calculator can be used for Section A of this paper

OCR is an exempt Charity

Turn over
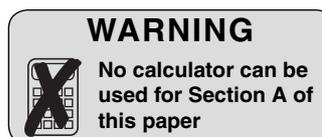
Formulae Sheet

Area of trapezium $= \frac{1}{2}(a + b)h$
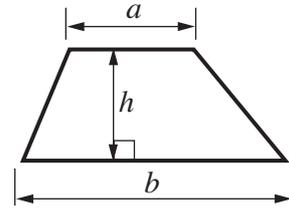
Volume of prism = (area of cross-section) × length
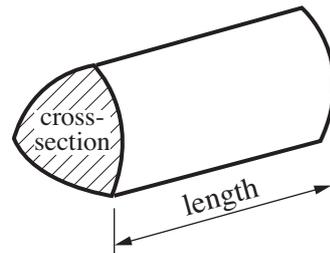
PLEASE DO NOT WRITE ON THIS PAGE

1   Work out.

 (a) 10^3

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

 (b) $5 + {}^-7$

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

 (c) $4 \times {}^-5$

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

 (d) $\frac{5}{8} \times \frac{1}{3}$

(d) .... **[2]**

Turn over

2 In the diagram, shape **A** has been rotated onto shape **B**.
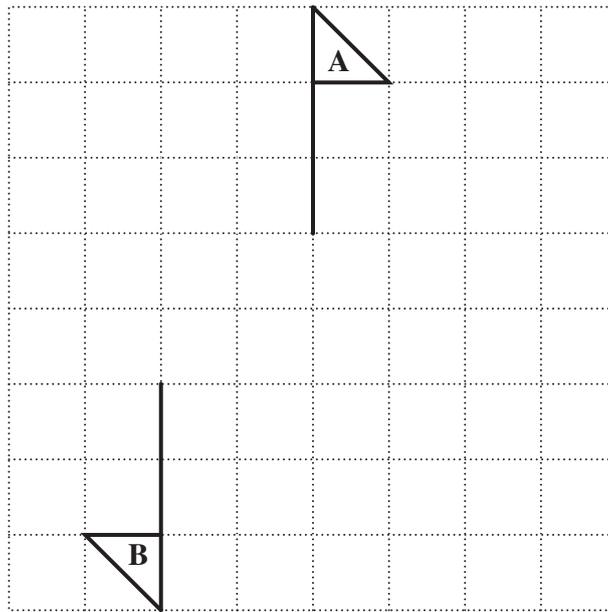
(a) Write down the angle of rotation.

(a)................................. ° [1]

(b) Mark **X** at the centre of rotation. [1]

3 (a) Simplify.

$5p + 4p - 2p$

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

(b) Each block of this pyramid is filled by adding the expressions in the two blocks below it.
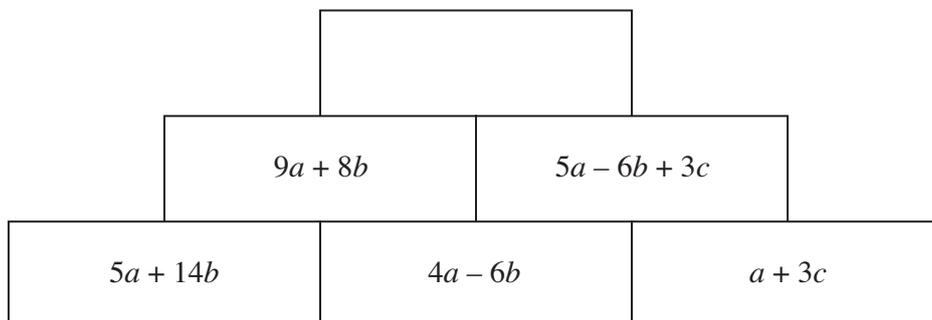
Complete the pyramid. [3]

4 **(a)** Round 592 to the nearest hundred.

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

(b) Round 587·679 to 2 decimal places.

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

(c) Round 54 769 to one significant figure.

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

(d) **(i)** Mr Davie wants to buy 28 maths books for his class.
The books cost £17·99 each.

Write down a calculation that Mr Davie could do in his head to estimate the total cost of the books.

.... ×............................... = £ .... **[2]**

(ii) Is your answer bigger or smaller than the exact cost?

Explain how you decide.

.... because ....

.... **[1]**

5   This scale drawing shows the positions of two places, Sheffield and Worksop.

N

Sheffield •

Scale : 1 cm to 4 km
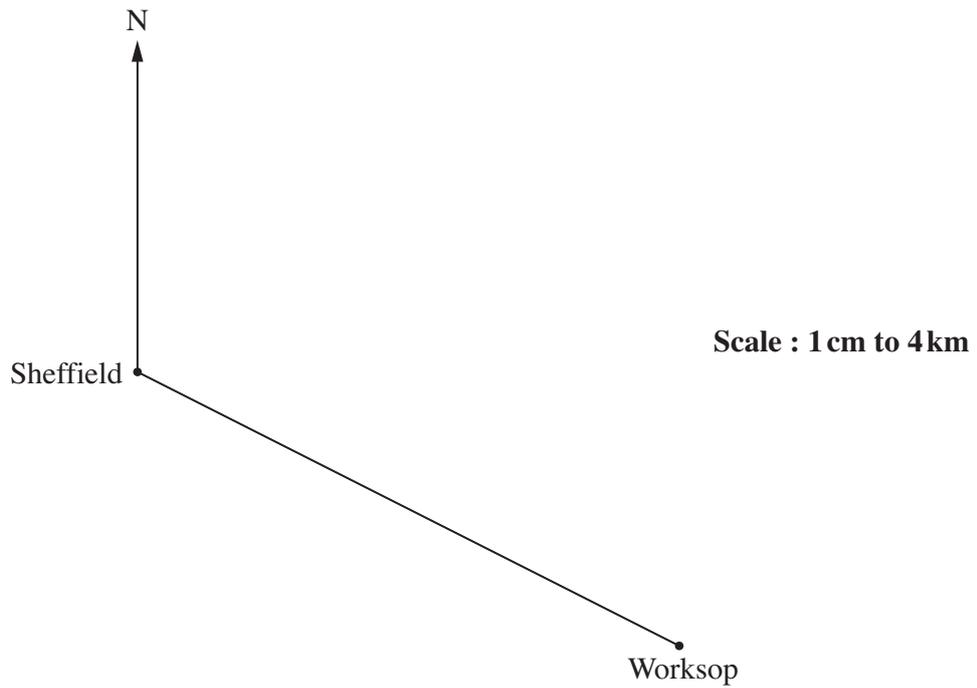
Worksop

(a) (i)   Measure the bearing of Worksop from Sheffield.

(a)(i) ....° **[1]**

(ii)   Work out the **real** distance between Sheffield and Worksop.

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

(b)   Doncaster is 26 km from Sheffield on a bearing of 057°.

On the scale drawing above, mark and label D, the position of Doncaster.   **[2]**

6 Lunch bags at Town School contain one sandwich and one piece of fruit from these lists.

Sandwich	**Fruit**
Meat (M)	Apple (A)
Cheese (C)	Orange (O)
Egg (E)	Banana (B)
	Pear (P)

(a) Complete the table to show all the different combinations there are.

Sandwich	**Fruit**
M	A

You may not need to use all the lines.

[2]

(b) One lunch bag of each combination is placed on a table.
Mrs Murphy takes one of these lunch bags at random.

What is the probability that her lunch bag contains a Cheese sandwich and an Orange?

(b) .... [1]

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