OCR
RECOGNISING ACHIEVEMENT

B277B

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

M7

TUESDAY 11 MARCH 2008

Morning
Time: 30 minutes

Candidates answer on the question paper
Additional materials (enclosed): None

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

Candidate Forename		Candidate Surname	

Centre Number		Candidate Number	

INSTRUCTIONS TO CANDIDATES

*   Write your name in capital letters, your Centre Number and Candidate Number in the boxes above.
*   Use blue or 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.

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**.
*   Section B starts with question 8.
*   You are expected to use a calculator in Section B of this paper.
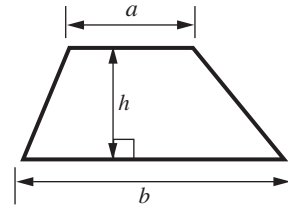*   Use the π button on your calculator or take π to be 3·142 unless the question says otherwise.

FOR EXAMINER'S USE

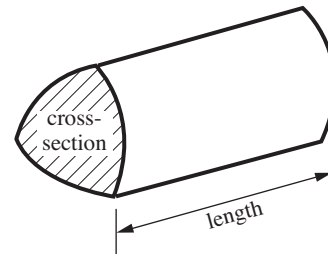| SECTION B	

This document consists of **8** printed pages.

Formulae Sheet

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

8 In a Science test the pass mark is 70%.
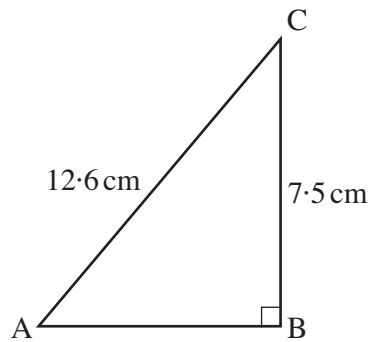Geoff scores 86 marks out of a total of 120.
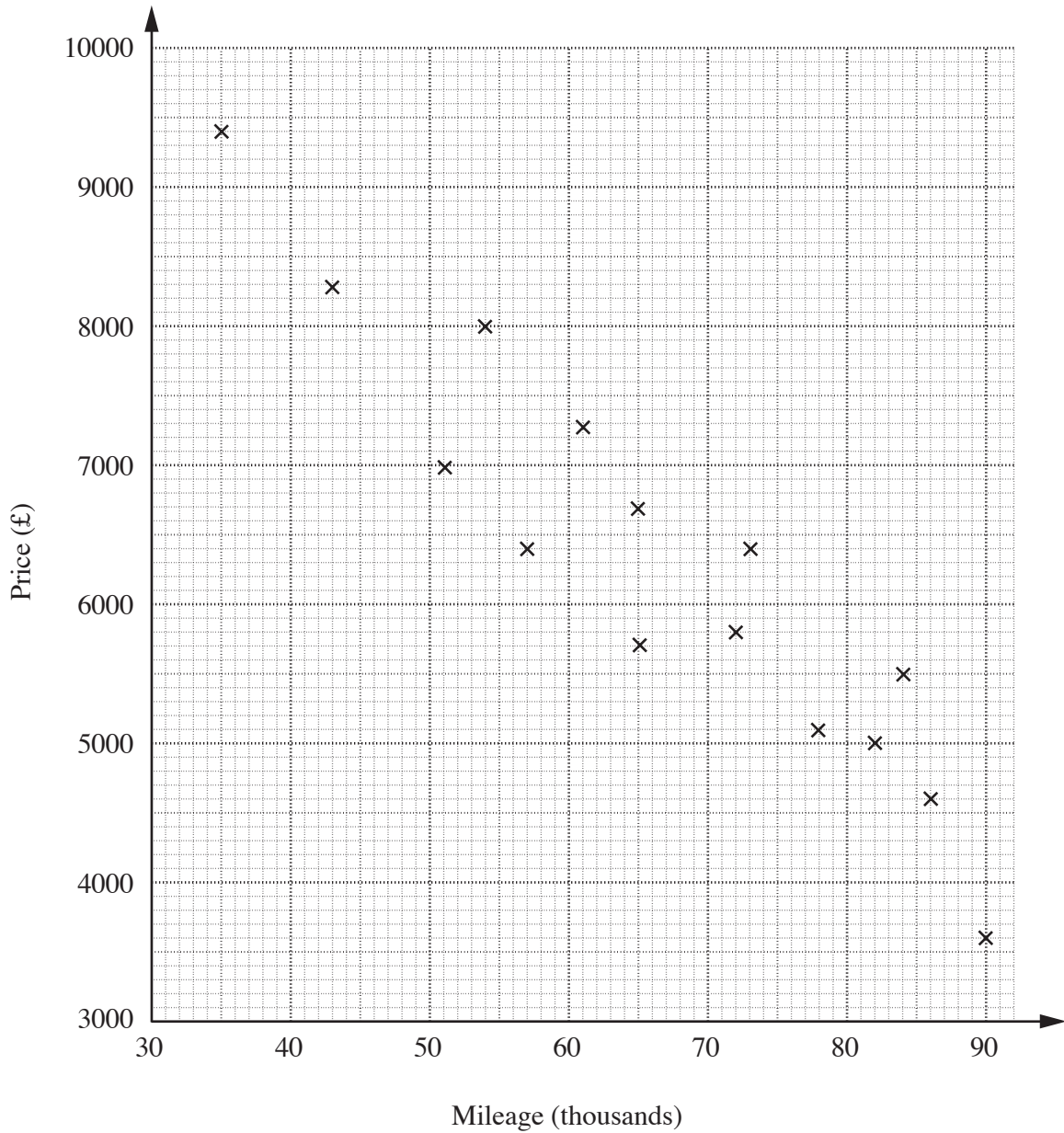
Does he pass?
Show how you decide.

Yes
or No

.... because ....

.... [2]

9

Not to scale

Calculate the length AB.

....................................cm [3]

[Turn over

10 (a) A car hire firm is selling some of its cars.
The scatter diagram shows the price and mileage of 15 of these cars.

(i) Describe the correlation.

.... [1]

(ii) The mileage of another car was 45 000.

Draw a line of best fit and use it to estimate the price of this car.

(a)(ii) £............................ [2]

(b) The firm owns 120 cars.
The distance covered by these cars in a year is summarised in the table below.

Distance (d miles)	Frequency
$10\,000 < d \leqslant 15\,000$	21
$15\,000 < d \leqslant 20\,000$	62
$20\,000 < d \leqslant 25\,000$	26
$25\,000 < d \leqslant 30\,000$	11

Calculate an estimate of the mean distance.

(b) ....miles [4]

[Turn over

11 On a journey of 612 km, Asim's car used 36·4 litres of fuel.
Asim starts another journey of 960 km with 64 litres of fuel in his car.

How much fuel will be left at the end of this journey?
You can assume that his car uses fuel at the same rate on both journeys.

.... litres [4]

12 Write down all the integer values of n that satisfy this inequality.

$$-5 < 2n \leqslant 8$$

.... [3]

13 There are 25 pupils in class 9A.
3 pupils are left-handed and 22 are right-handed.

    (a) What is the probability that a pupil, chosen at random from class 9A, is left-handed?

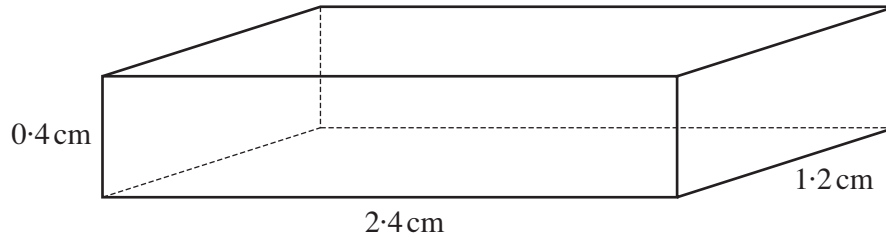   **(a)** .... [1]

    (b) There are 560 pupils in the school.

        Estimate the number of pupils in the school who are left-handed.
        Show your working.

                                       (b) .... [2]

TURN OVER FOR QUESTION 14

14

A block of platinum is in the shape of a cuboid.
The block measures 2·4 cm by 1·2 cm by 0·4 cm.
The density of platinum is 21·5 g/cm^3.

Calculate the mass, in grams, of the block of platinum.

.... g [3]