

# GENERAL CERTIFICATE OF SECONDARY EDUCATION MATHEMATICS C (GRADUATED ASSESSMENT)

 $M7^{B247B}$ 

MODULE M7 - SECTION B

**MONDAY 22 JANUARY 2007** 

Morning

Time: 30 minutes

Candidates answer on the question paper.

Additional materials: Geometrical instruments

Tracing paper (optional)
Scientific or graphical calculator



Name								
Centre Number					Candidate Number			
<ul> <li>Answer all</li> <li>Use blue of Read each</li> <li>In many qu</li> <li>Do not wri</li> <li>Do not wri</li> <li>WRITE YOU ELSEWHE</li> </ul> INFORMATION <ul> <li>You are ex</li> <li>The number</li> <li>The total note</li> </ul>	name, Centre the question or black ink. For the puestion of marks is umber of marks is the puestion of marks is umber of marks in the puestion of marks is the puestion of the pue	re Number ns. Pencil may refully and ks will be goode. e box bord R TO EACOT BE MAF	be used for make sur given for a ering each H QUEST RKED.	or graphs and re you know correct met an page. TON IN THE tion B of this at the end	er in the boxes about diagrams only. what you have to hod even if the ans SPACE PROVIDE spaper. of each question of	do befo swer is ED. AN	s incorrect.	
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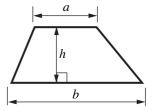
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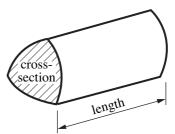
2

### Formulae Sheet

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



**Volume of prism** = (area of cross-section)  $\times$  length

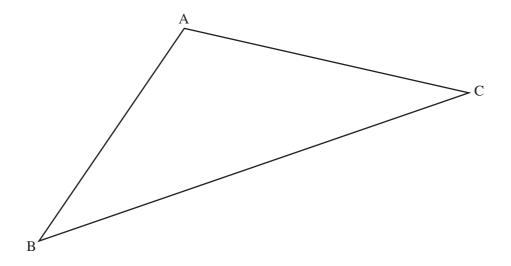


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**8** Work out the reciprocal of 40. Give your answer as a decimal.



9 In this question you must use ruler and compasses only. Show all your construction lines.



(a) Construct the perpendicular bisector of BC.

[2]

(b) Show clearly the point inside triangle ABC which is equidistant from B and C and 2 cm from A.

Label this point D.

[2]



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10 The cost of net curtain material is proportional to the length of the material.

Complete the table below.

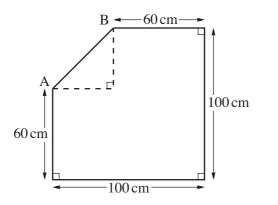
Length	4 m	5·2 m	m
Cost	£15·40	£	£9·24

[4]

4

11 Rebecca is designing a new kitchen.

This is the plan view of a corner unit with measurements as shown.



Not to scale

Calculate the distance AB.

..... cm [4]

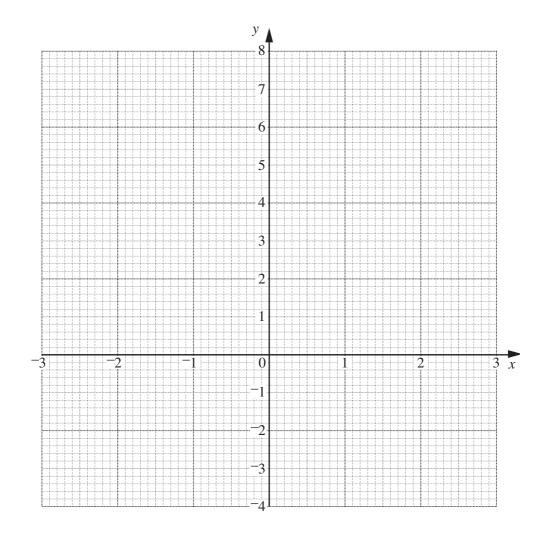


12 (a) Complete the table below for  $y = x^2 - 2$ .

x	-3	-2	-1	0	1	2	3
у	7			-2			7

[2]

**(b)** Draw the graph of  $y = x^2 - 2$ .



[2]

(c) Find the values of x where the graph crosses the x-axis.

(c).....[2]

6

[Turn over

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**13** (a) A health club records how long members spend in the gym one day. This table summarises the results for 154 members.

Time (x minutes)	Frequency
$0 < x \le 30$	25
$30 < x \le 60$	24
$60 < x \le 90$	92
$90 < x \le 120$	13

Calculate an estimate of the mean time spent in the gym.

(a)	minutes	[41

**(b)** Tanya uses the treadmill for a quarter of an hour and walks a distance of 1·3 miles.

At what speed, in miles per hour, has she set the treadmill?

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

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