



General Certificate of Secondary Education
2010

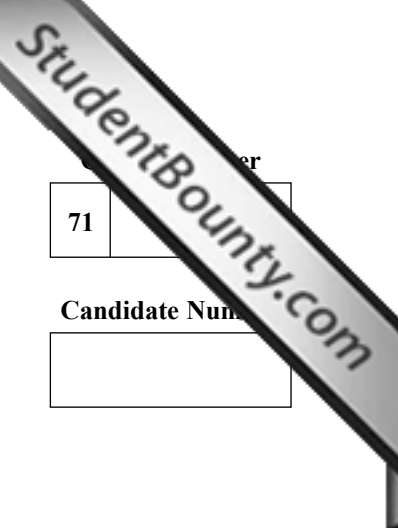
Mathematics

Module N2 Paper 2
(With calculator)
Foundation Tier

[GMN22]

TUESDAY 1 JUNE

10.30 am – 11.15 am



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71	
Candidate Number	
<input type="text"/>	

TIME

45 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this question paper.

Answer **all thirteen** questions.

Any working should be clearly shown in the spaces provided since marks may be awarded for partially correct solutions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 44.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

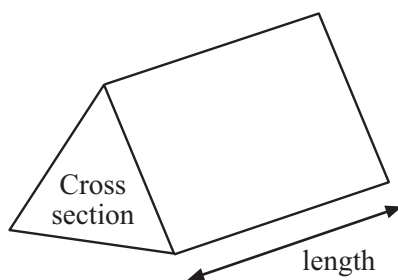
You should have a calculator, ruler, compasses, set-square and protractor.

The Formula Sheet is on page 2.

For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
Total Marks	

Formula Sheet

Volume of prism = area of cross section \times length

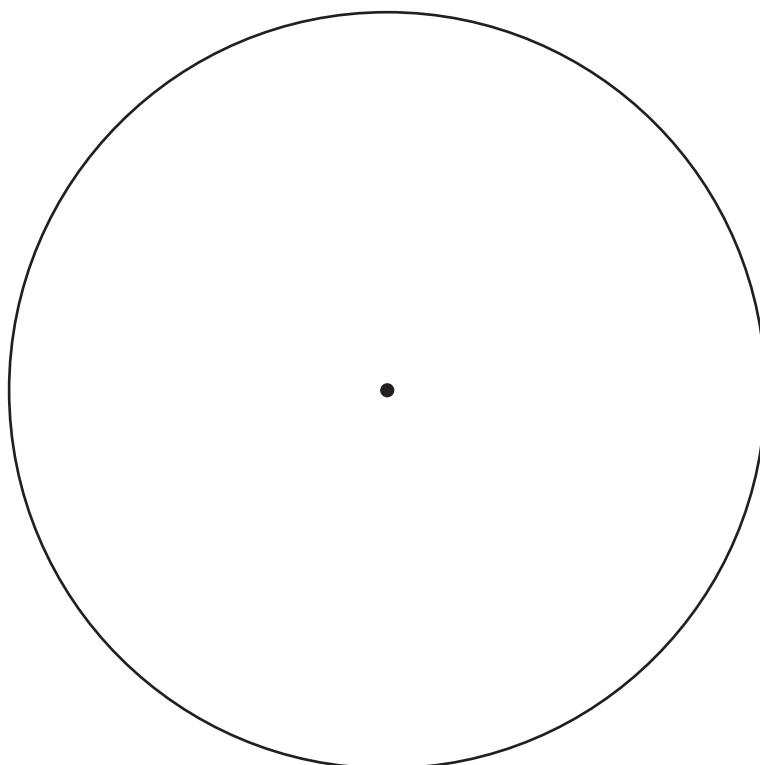


- 1 Calculate $42^3 + \sqrt{9800}$
Give your answer correct to 2 significant figures.

Answer _____ [2]

- 2 A hurling coach divides his 40 players into four groups.
Complete the table and draw a pie chart to show this information.

Group	Number of players	Angle
Stick work	12	
Tackling	10	
Catching	6	
Shooting	12	



[4]

Examiner Only

Marks Remark

- 3 (a) Find the volume of water in a full tank which measures 35 cm by 42 cm by 60 cm.

Answer _____ [3]

- (b) A second full tank contains the same volume of water as the first tank. It has a length of 35 cm and a breadth of 84 cm. What is its height?

Answer _____ cm [2]

- 4 Find the value of $5x + 3y$ when $x = -3$ and $y = 2$

Answer _____ [2]

Examiner Only	
Marks	Remark

5



Cost: £119.90

An iPod costs £119.90

Dylan has already saved £35 towards the cost of the iPod.

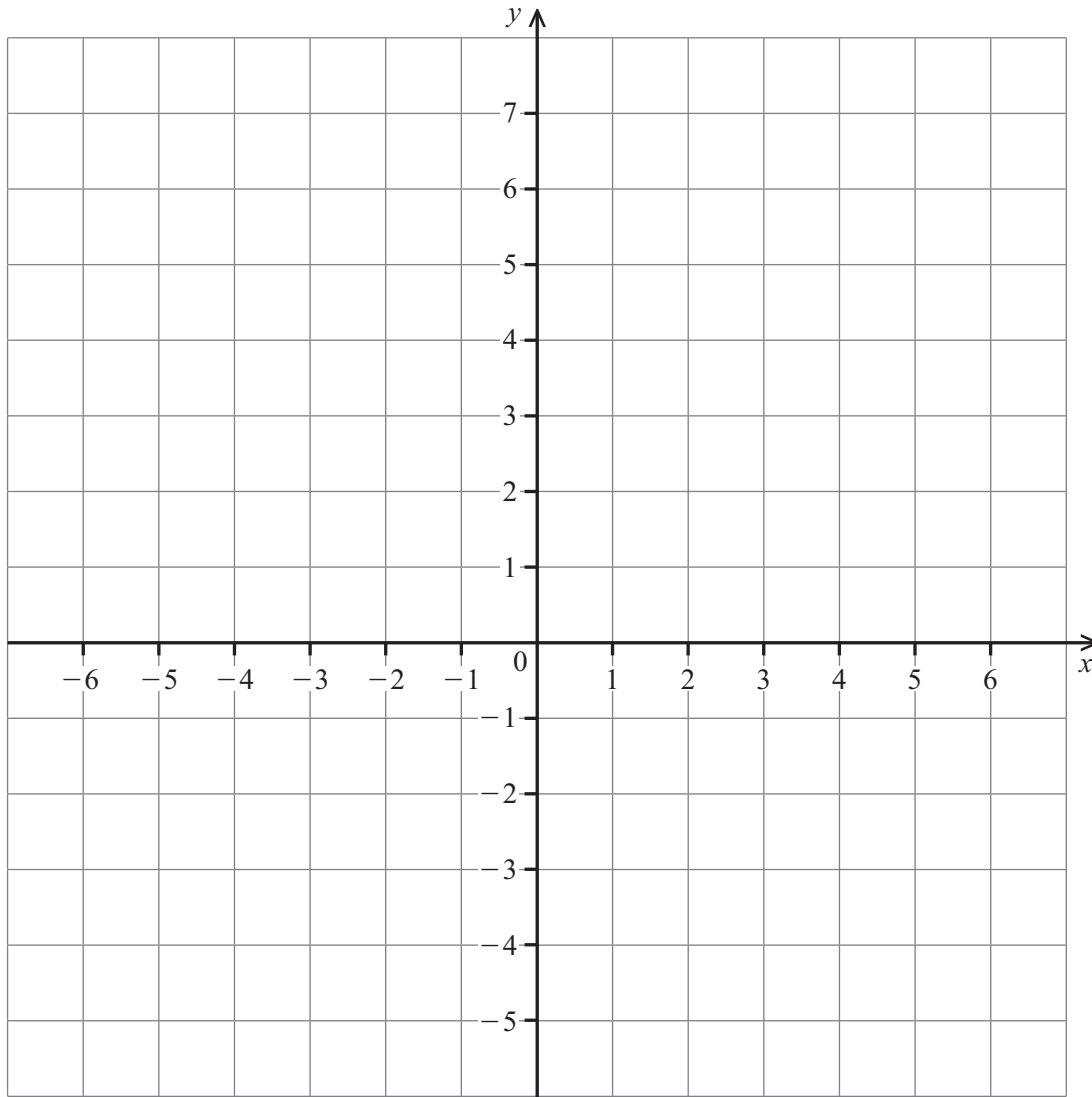
He continues to save £7.50 per week.

How many complete weeks will it be before he can buy the iPod?

Answer _____ weeks [4]

Examiner Only	
Marks	Remark

6



Draw the line $y = 2x - 1$ on the grid above.

[3]

Examiner Only	
Marks	Remark

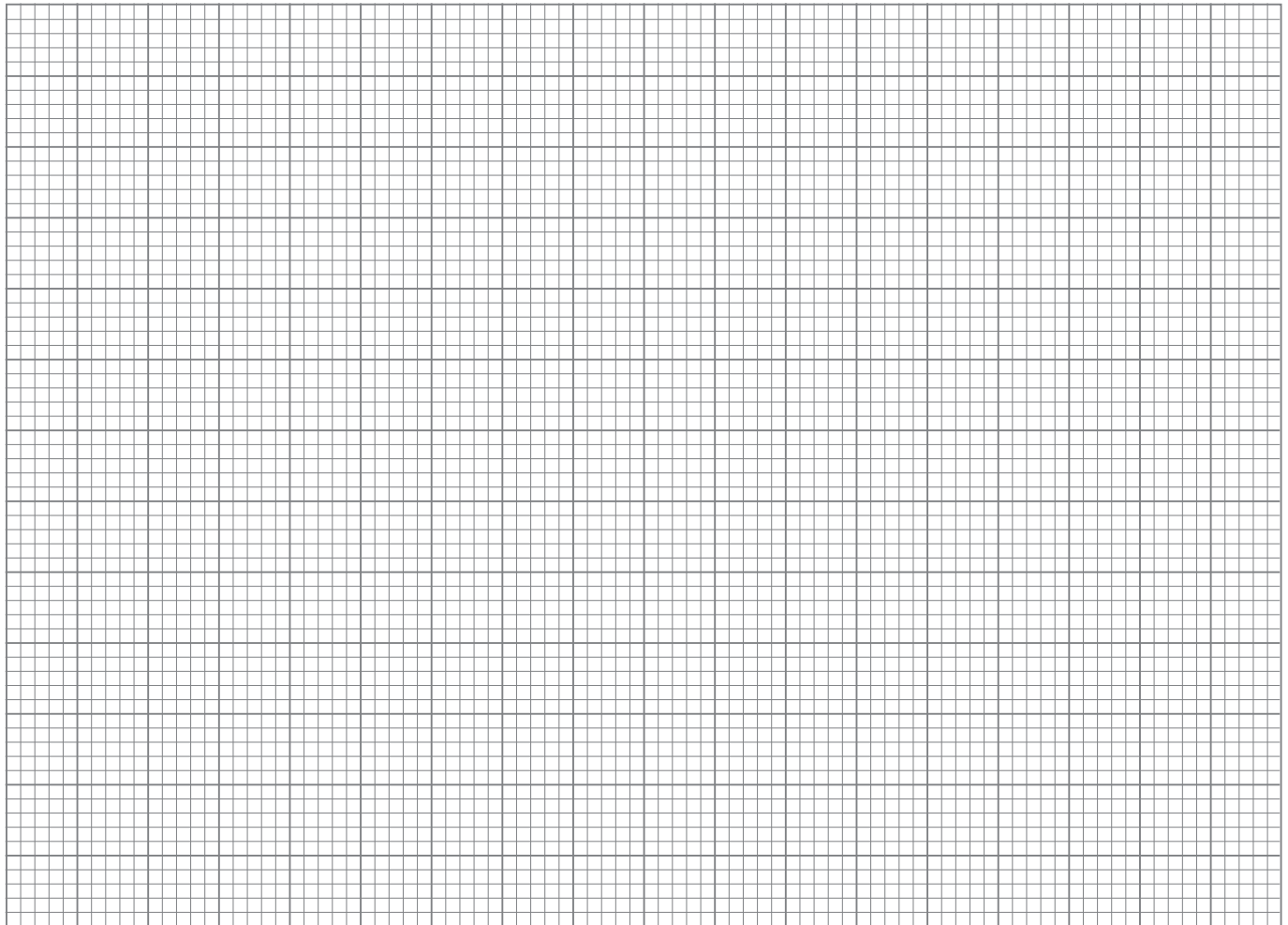
7 The ages of members of a health club were recorded.

Age (years)	0–9	10–19	20–29	30–39	40–49	50–59
Frequency	5	28	36	25	14	10

Draw a grouped frequency diagram for this data.

[3]

Examiner Only	
Marks	Remark



- 8 Jane is having a party. She needs twelve cans of cola.
A single can of cola costs 40p in each of two local shops.
Each shop has a particular offer on cans of cola.

* Ventra *
20% off every
twelve cans

* Viva *
buy 3 for the
price of 2

Which is better value?
Show your working clearly.

Answer _____ [4]

- 9 Give the names of two shapes which both have equal sides of length x and both have perimeters of length $4x$.

Answer _____ and _____ [3]

Examiner Only

Marks Remark

10 (a) $A = (4, -5)$, $B = (-2, 9)$

Find the co-ordinates of the midpoint of the line AB.

Answer (____, ____) [2]

(b) The exterior angle of a regular polygon is 20° .

Find the number of sides.

Answer _____ [2]

11 The time taken by ladies to complete the Belfast "Runher" Fun Run were recorded to the nearest minute.

Time (min)	Number of ladies	Mid value	
25–34	13	29.5	
35–44	107		
45–54	234		
55–64	71		
65–74	22		
75–84	1		

(a) Which class interval contains the median time?

Answer _____ [1]

(b) Calculate an estimate for the mean time to complete the Fun Run.

Answer _____ minutes [3]

Examiner Only

Marks Remark

- 12 The mass of bacteria in a mixture increases by 5% every hour.
At 9.00 am there is 120 mg of bacteria.
What will the mass of bacteria be at midday?

Answer _____ mg [3]

- 13 Find the perimeter of a semi-circle with diameter 15 cm.

Answer _____ cm [3]

Examiner Only	
Marks	Remark

THIS IS THE END OF THE QUESTION PAPER
