



Rewarding Learning

General Certificate of Secondary Education
January 2009

Mathematics



Module N2 Paper 1
(Non-calculator)
Foundation Tier

[GMN21]

FRIDAY 9 JANUARY
9.15 am – 10.00 am



GMN21

StudentBounty.com

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 twelve** questions.
Any working should be clearly shown in the spaces provided since marks may be awarded for partially correct solutions.
You **must not** use a calculator for this paper.

INFORMATION FOR CANDIDATES

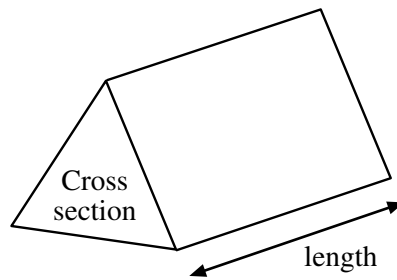
The total mark for this paper is 44.
Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.
You should have a ruler, compasses, set-square and protractor.
The Formula Sheet is on page 2.

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

Total Marks	
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Formula Sheet

Volume of prism = area of cross section \times length



1 Calculate

(a) 0.5×0.3

Answer _____ [1]

(b) $\frac{3}{8} - \frac{1}{4}$

Answer _____ [2]

(c) $6.2 - 2.73$

Answer _____ [1]

Examiner Only	
Marks	Remark

- 2 The stem and leaf diagram represents the heights of 21 students in a year 8 class.

Stem	Leaf
13	6 9
14	1 2 3 3 4
14	5 6 7 7 8 8 9
15	1 2 4 4
15	5 8
16	2

Key: 13 | 6 means 136 cm

Write down

- (a) the range of the data,

Answer _____ cm [1]

- (b) the median of the data.

Answer _____ cm [1]

Examiner Only	
Marks	Remark

- 3 Construct the triangle ABC with $AB = 7$ cm, $BC = 4$ cm and $AC = 5$ cm.
Do not rub out your construction lines.

[3]

- 4 In Maggie's corner shop 0.8 kg carrots and 0.5 kg onions cost £1.94
Carrots cost £1.55 per kg.
How much do onions cost per kg?

Answer £ _____ [4]

Examiner Only	
Marks	Remark

- 6 Joe uses $\frac{3}{4}$ of a tin of paint to paint a garden shed.
What is the least number of tins required to paint 10 similar sheds?

Answer _____ [3]

Examiner Only	
Marks	Remark

7 A survey was carried out in Belfast City centre to find out the opinions of people on the subject of 'healthy living'.

A sample of 100 people were questioned.

(a) (i) Explain why these 100 people might not represent the opinions of the Belfast public on 'healthy living'.

_____ [1]

(ii) One of the questions used in the survey was "Do you not think that thin people are healthier than fat people?"
Give a reason why this question may not have been a suitable question for the survey.

Reason _____
_____ [1]

(b) The same survey was carried out inside a leisure centre in Lisburn.
Give **two** reasons why the survey should not have been carried out in this location.

Reason _____
_____ [1]

Reason _____
_____ [1]

Examiner Only	
Marks	Remark

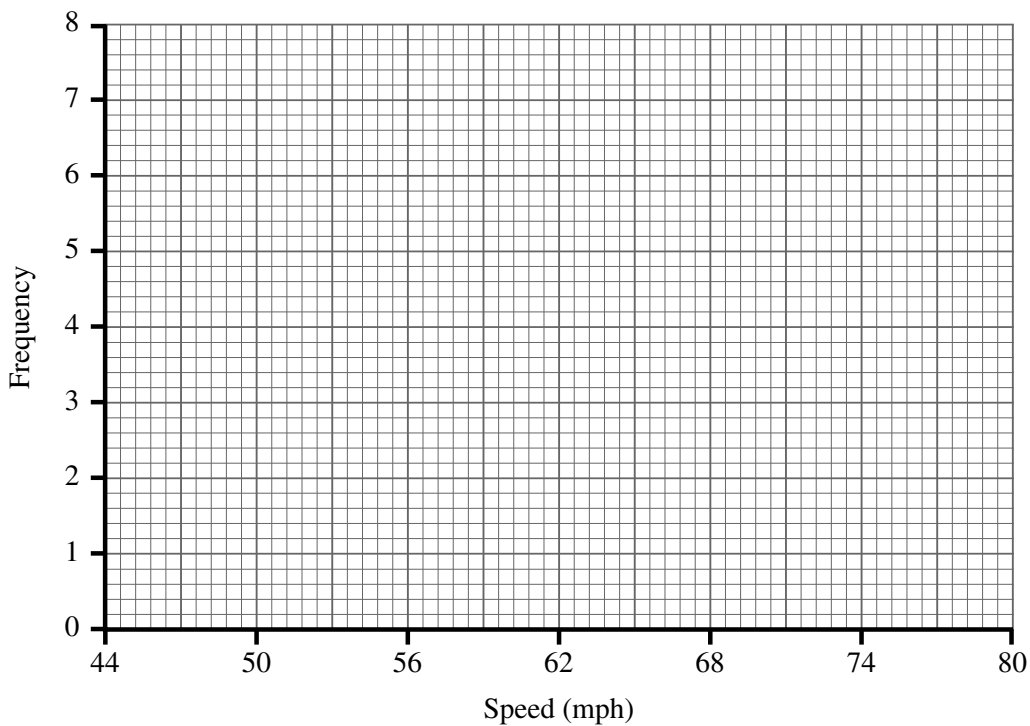
- 11 The PSNI recorded the speeds of a number of vehicles passing under a bridge on the M2 motorway during a 2 minute period one morning. The speeds recorded are in miles per hour (mph).

Speed x (mph)	Frequency f
$44 \leq x < 50$	3
$50 \leq x < 56$	7
$56 \leq x < 62$	8
$62 \leq x < 68$	6
$68 \leq x < 74$	5
$74 \leq x < 80$	1

- (a) Which of the class intervals contains the median speed?

Answer _____ [1]

- (b) On the graph paper draw a frequency polygon for the data. [2]



Examiner Only	
Marks	Remark

12 Write 120 as a product of prime factors and express your answer in index notation.

Examiner Only	
Marks	Remark

Answer _____ [3]

THIS IS THE END OF THE QUESTION PAPER
