

Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
Question	Mark
1	
2	
3	
4	
5	
6	
7	
8	
TOTAL	



General Certificate of Education
Advanced Subsidiary Examination
June 2012

Mathematics

MM1B

Unit Mechanics 1B

Thursday 24 May 2012 9.00 am to 10.30 am

For this paper you must have:

- the blue AQA booklet of formulae and statistical tables.

You may use a graphics calculator.

Time allowed

- 1 hour 30 minutes

Instructions

- Use black ink or black ball-point pen. Pencil should only be used for drawing.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- Write the question part reference (eg (a), (b)(i) etc) in the left-hand margin.
- You must answer each question in the space provided for that question. If you require extra space, use an AQA supplementary answer book; do **not** use the space provided for a different question.
- Do not write outside the box around each page.
- Show all necessary working; otherwise marks for method may be lost.
- Do all rough work in this book. Cross through any work that you do not want to be marked.
- The **final** answer to questions requiring the use of calculators should be given to three significant figures, unless stated otherwise.
- Take $g = 9.8 \text{ m s}^{-2}$, unless stated otherwise.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 75.
- Unit Mechanics 1B has a **written paper only**.

Advice

- Unless stated otherwise, you may quote formulae, without proof, from the booklet.
- You do not necessarily need to use all the space provided.



J U N 1 2 M M 1 B 0 1

QUESTION
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REFERENCE

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QUESTION
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Answer space for question 2

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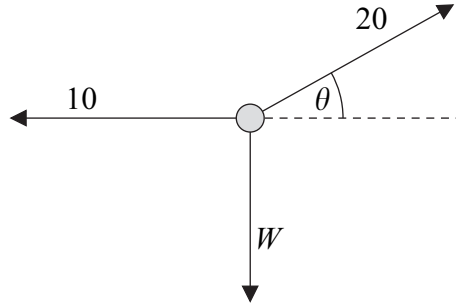
QUESTION
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Answer space for question 3

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- 4 A particle, of weight W newtons, is held in equilibrium by two forces of magnitudes 10 newtons and 20 newtons. The 10-newton force is horizontal and the 20-newton force acts at an angle θ above the horizontal, as shown in the diagram. All three forces act in the same vertical plane.



- (a) Find θ . (3 marks)
- (b) Find W . (2 marks)
- (c) Calculate the mass of the particle. (2 marks)

QUESTION
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QUESTION
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QUESTION
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Answer space for question 5

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QUESTION
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Answer space for question 5

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QUESTION
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Answer space for question 6

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QUESTION
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Answer space for question 6

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QUESTION
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Answer space for question 7

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QUESTION
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QUESTION
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Answer space for question 7

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QUESTION
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REFERENCE

Answer space for question 8

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