

Full name:

Teacher name:

L6 A Level Maths END OF YEAR MOCK

Weds 26th June 2019 AM

Time: 2 hours

Total Marks: 100

You must have: Mathematical Formulae and Statistical Tables, Calculator

Instructions

- Use black ink or ball-point pen.
- If pencil is used for diagrams/sketches/graphs it must be dark (HB or B).
- Fill in your name at the top of this page and the name of your teacher
- Answer all questions and ensure that your answers to parts of questions are clearly labelled.
- You should show sufficient working to make your methods clear. Answers without working may not gain full credit. Answers found from the calculator without working may not gain full credit.
- Answers should be given to three significant figures unless otherwise stated.

Information

- A booklet 'Mathematical Formulae and Statistical Tables' is provided.
- There are 15 questions. Section A is Pure Maths. Section B is Statistics. Section C is Mechanics. The total mark for this paper is 100.
- The marks for each question are shown in brackets
 - use this as a guide as to how much time to spend on each question.

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Pure
7	5	4	4	6	6	5	5	5	9	10	66

Q12	Q13	Stats
7	10	17

Q14	Q15	Mech
6	11	17

Total	Grade
100	

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6. Complete the table below. The first one has been done for you.

For each statement below you must state if it is always true, sometimes true or never true, giving a reason in each case.

Statement	Always True	Sometimes True	Never True	Reason
The quadratic equation $ax^2 + bx + c = 0$ ($a \neq 0$) has 2 real roots.		✓		It only has 2 real roots when $b^2 - 4ac > 0$ When $b^2 - 4ac = 0$ it has 1 real root and when $b^2 - 4ac < 0$ it has 0 real roots.
(i) When a real value of x is substituted into $x^2 - 6x + 10$ the result is positive. (2)				
(ii) If $ax > b$ then $x > \frac{b}{a}$ (2)				
(iii) The difference between consecutive square numbers is odd. (2)				

(6 marks)

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