



Surname	Centre Number	Candidate Number
Other Names		G



GCSE
4503/02
PHYSICS
PHYSICS 3
HIGHER TIER



P.M. WEDNESDAY, 25 May 2016
1 hour

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Question	Maximum Mark	Mark Awarded
1.	16	
2.	10	
3.	8	
4.	13	
5.	14	
Total	60	

ADDITIONAL MATERIALS

In addition to this paper you may require a calculator and a ruler.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen.

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer all questions.

Write your answers in the spaces provided in this booklet.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question or part-question.

You are reminded of the necessity for good English and orderly presentation in your answers.

A list of equations is printed on page 2. In calculations you should show all your working.

You are reminded that assessment will take into account the quality of written communication (QWC) used in your answer to question 2(a)(i) and 5(b).



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Rachel S Tattersall



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$$\begin{bmatrix} 2 & 0 & 1 & 1 & 0 & 1 & 1 & 0 & 3 \\ 1 & 1 & 3 & 0 & 1 & 1 & 1 & 1 & 1 \end{bmatrix}$$
 right a 2×9 matrix
$$\begin{bmatrix} 2 & 0 & 1 & 1 & 2 & 1 & 1 & 1 & 0 & 1 & 3 & 1 & 1 & 0 & 0 & 1 & 1 & 3 & 1 & 1 & 5 \end{bmatrix}$$
 5×20 problem 2

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