Please check the examination details below before entering your candidate information

Candidate surname	Other names

Pearson Edexcel
International
Advanced Level

Centre Number | | | | | |

Candidate Number | | | | |

Monday 21 January 2019

Afternoon (Time: 1 hour 30 minutes) | Paper Reference **WME01/01**

Mechanics M1

Advanced/Advanced Subsidiary

You must have:
Mathematical Formulae and Statistical Tables (Blue)

Total Marks

Candidates may use any calculator allowed by the regulations of the Joint Council for Qualifications. Calculators must not have the facility for symbolic algebra manipulation, differentiation and integration, or have retrievable mathematical formulae stored in them.

Instructions

- Use **black** ink or ball-point pen.
- If pencil is used for diagrams/sketches/graphs it must be dark (HB or B). Coloured pencils and highlighter pens must not be used.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions and ensure that your answers to parts of questions are clearly labelled.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*
- You should show sufficient working to make your methods clear. Answers without working may not gain full credit.
- Whenever a numerical value of g is required, take $g = 9.8$ m s^{-2}, and give your answer to either two significant figures or three significant figures.
- When a calculator is used, the answer should be given to an appropriate degree of accuracy.

Information

- The total mark for this paper is 75.
- 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.

Turn over ▶

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P 5 4 8 2 9 A 0 1 2 4

Pearson

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1. Two particles, A and B, have masses $2m$ and $3m$ respectively. They are moving towards each other in opposite directions along the same straight line on a smooth horizontal plane when they collide directly. Immediately before they collide, the speed of A is $3u$ and the speed of B is u. As a result of the collision, the speed of A is halved and the direction of motion of each particle is reversed.

(i) Find the speed of B immediately after the collision.

(ii) Find the magnitude of the impulse exerted on A by B in the collision.

(6)

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Question 1 continued

Q1

(Total 6 marks)