

DO NOT WRITE IN THIS AREA

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Answer all TEN questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1** A particle P is moving in a straight line. At time t seconds, $t \geq 0$, the displacement, s metres, of P from a fixed point O of the line is given by

$$s = 3 + 8t + t^2 - \frac{1}{3}t^3$$

Find the distance of P from O when P is instantaneously at rest.

(4)

(Total for Question 1 is 4 marks)



P 6 2 2 8 5 A 0 3 3 2