

- 7 A particle P moves along the x -axis so that at time t seconds, $t \geq 0$, the velocity of P , v m/s, is given by $v = 5 \cos 2t$

(a) Find the value of t when P first comes to instantaneous rest.

(2)

(b) Find the magnitude of the maximum acceleration of P .

(3)

When $t = 0$, P is at the point A , where $OA = 0.2$ m.

When P first comes to instantaneous rest, P is at the point B .

(c) Find the distance OB .

(4)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

Question 7 continued

Handwritten answer area for Question 7 continued, consisting of 25 horizontal dotted lines.



P 5 3 3 9 1 A 0 1 7 3 6

Question 7 continued

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

Question 7 continued**(Total for Question 7 is 9 marks)**

P 5 3 3 9 1 A 0 1 9 3 6