16 A particle P is moving along a straight line.
The fixed point O lies on this line.

At time t seconds, the displacement, s metres, of P from O is given by

$$s = 4t^3 - 6t^2 + 5t$$

At time t seconds, the velocity of P is v m/s.

(a) Find an expression for v in terms of t.

$v =$ .....

(2)

(b) Find the time at which the acceleration of the particle is $6\,\text{m/s}^2$

..... seconds

(3)

(Total for Question 16 is 5 marks)

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