3 A particle P moves in a straight line. At time t seconds, the velocity, $v\,$m/s, of P is given by

$$v = t^2 - 4t + 7$$

(a) Find the acceleration of P, in m/s^2, when $t = 3$

(2)

(b) Find the distance, in m, that P travels in the interval $\ 0 \leqslant t \leqslant 6$

(4)

Question 3 continued

(Total for Question 3 is 6 marks)