

- 6** A particle P moving in a straight line has displacement x m from a fixed point O on the line and velocity v m s⁻¹ at time t s. The acceleration of P , in m s⁻², is given by $6v\sqrt{v+9}$. When $t = 0$, $x = 2$ and $v = 72$.

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

[4]

[illegible]

[Turn over