3 At time t s, a particle travelling in a straight line has acceleration $(2t+1)^{-\frac{1}{2}}$ ms^{-2}. When $t = 0$, the particle is 4 m from a fixed point O and is travelling with velocity 8 ms^{-1} away from O.

(a) Find the velocity of the particle at time t s. [3]

(b) Find the displacement of the particle from O at time t s. [4]