10 The acceleration, $a\,\text{ms}^{-2}$, of a particle at time t seconds is given by $a = -\frac{45}{(t+1)^2}$. When $t = 0$ the velocity of the particle is $50\,\text{ms}^{-1}$.

(a) Find an expression for the velocity of the particle in terms of t. [4]

(b) Find the distance travelled by the particle between $t = 1$ and $t = 10$. [4]