11 **In this question you must show detailed reasoning.**

The variables x and y are such that $\dfrac{dy}{dx}$ is directly proportional to the square root of x.

When $x = 4$, $\dfrac{dy}{dx} = 3$.

(a) Find $\dfrac{dy}{dx}$ in terms of x.   [3]

When $x = 4$, $y = 10$.

(b) Find y in terms of x.   [3]