**(b) (i)** Differentiate $y = \tan\left(x - \sqrt{x}\right)$ with respect to $x$. [2]

**(ii)** Hence find $\int \frac{2\sqrt{x} - 1}{\sqrt{x}\cos^2\left(x - \sqrt{x}\right)} \mathrm{d}x$. [2]

**5** Variables $x$ and $y$ are related by the equation $y = \frac{x}{\ln 3x}$. Use differentiation to find the approximate change in $y$ when $x$ increases from 1 to $1 + h$, where $h$ is small. [4]