

9 A function f is defined by $f(x) = \frac{1}{1-3x}$, for $x \geq 1$.

(i) Find an expression for $f'(x)$. [2]

(ii) Determine, with a reason, whether f is an increasing function, a decreasing function or neither. [1]

(iii) Find an expression for $f^{-1}(x)$, and state the domain and range of f^{-1} . [5]