

4. If $y = \cot^{-1} \left(\frac{1+x}{1-x} \right)$, then $\frac{dy}{dx} =$

5. If $f(x) = \frac{\sqrt[3]{3x-2}}{e^{x^2}(x^3+1)^{10}}$, then find $f'(1)$

6. Find $\lim_{n \rightarrow \infty} \left(1 + \frac{3x}{2n} \right)^n$