

3. Show that $\tanh(\ln x) = \frac{x^2 - 1}{x^2 + 1}$

4. Show that $\frac{d}{dx} \sqrt[4]{\frac{1 + \tanh x}{1 - \tanh x}} = \frac{e^{x/2}}{2}$

5. Find the absolute maximum and absolute minimum values of $f(t) = t\sqrt{4-t^2}$ on $[-1, 2]$.

6. Suppose that $3 \leq f'(x) \leq 5$ for all values of x . Find two constants a and b , such that $a \leq f(8) - f(2) \leq b$.