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1 Verify that f has an inverse function. Then use the function f and the given function value $f(x) = a$ to find $(f^{-1})'(a)$.

$$f(x) = \frac{x+6}{x-2}, \quad x > 2, \quad f(6) = 3$$

2 Find the derivative of the function.

$$y = \ln\left(\frac{1+e^x}{1-e^x}\right)$$

3 Find the derivative of the function.

$$g(x) = \log_5\left(\frac{4}{x^2\sqrt{1-x}}\right)$$

4 Evaluate the limit, using L'Hôpital's Rule if necessary.

$$\lim_{x \to 1} \frac{\ln x^3}{x^2 - 1}$$