

Quiz 9 MTH 140 Fall 2025

Monday, October 13, 2025

10:51 AM

$$f(x) = \frac{e^x}{5x^2 + 3x - 7}$$

$$f'(x) = \frac{(5x^2 + 3x - 7) \frac{d}{dx}[e^x] - e^x \frac{d}{dx}[5x^2 + 3x - 7]}{(5x^2 + 3x - 7)^2}$$

$$= \frac{(5x^2 + 3x - 7)e^x - e^x(10x + 3)}{(5x^2 + 3x - 7)^2}$$

$$= e^x \left[\frac{5x^2 - 7x - 10}{(5x^2 + 3x - 7)^2} \right]$$