Find the derivative of the function

\[ f(x) = \left( \frac{2x - 3}{x + 1} \right)^3, \]

and use this information to find an equation for the line tangent to the graph of \( f \) at the point \((1, -1/8)\).

**Solution:** Use the chain rule and the quotient rule to get

\[ f'(x) = 3 \left( \frac{2x - 3}{x + 1} \right)^2 \cdot \frac{2(x + 1) - 1(2x - 3)}{(x + 1)^2}. \]

Then evaluate \( f' \) at 1 to get \( f'(1) = 3(-1/2)^2 \cdot 5/4 = 15/16 \), so the tangent line has the equation \( y - (-1/8) = \frac{15}{16}(x - 1) \), so \( y = \frac{15}{16}x - \frac{17}{16} \).