

Calculus AB Logs and Exponentials Derivatives Unit Quiz Review WS 4

Show all work. No calculators.

1) Find $\frac{dy}{dx}$ $y = \log_5\left(\frac{4}{x^2\sqrt{1-x}}\right)$

2) find $\frac{dy}{dx}$ $y = \sqrt[7]{(x^2 - \ln x)^x}$

3) Find $\frac{d}{dx}f^{-1}(2)$ given $f(x) = x^3 + 2x - 1$

4) Find $\frac{dy}{dx}$ for $\ln(xy) + xy = 50$

5) Find tangent line equation for
 $f(x) = e^{-x} \ln x$ at $(1, 0)$

6) Find $\frac{dy}{dx}$ $y = (3-5x)^{2^x}$

7) Find y' for $y = 3 \log_7 \left(\frac{x}{e^{2x} \sqrt{1-3x^2}} \right)$

8) Find $\frac{dy}{dx}$ $\ln \left(\frac{\sqrt[3]{y}}{x^5} \right) = 3x^2 - y + 5x - 3$