

Derivatives - The Product Rule WS

Directions: Find the equation for the slope of the tangent line.

1) $y = \sqrt{x} \cdot \sin x$

2) $f(x) = \left(\frac{1}{\sqrt{x}} + x^2\right) \cot x$

3) $y = (4x^3 - 1) \log_6 x$

4) $f(x) = 2 \sec x \tan x$

5) $y = \left(4\sqrt[3]{x^2} - \frac{10}{\sqrt[4]{x}} + \frac{2}{x} - x\right) \ln x$

6) $f(x) = 4 \log x (\cos x)$

7) $y = \frac{6}{x^2} - 3\sqrt{x} + \frac{5}{2\sqrt[4]{x^3}} - 10$

8) $f(x) = \frac{\csc x}{\cot x}$

9) $y = x \ln 4x$

10) $f(x) = (3e)^x$