

# Product Rule / Quotient Rule WS 1

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

$$1) y = (5^x + \ln(x))(7\cos(x))$$

$$2) f(x) = \left(\frac{x^3}{\cot(x)}\right)(6e^x)$$

$$3) y = \left(\frac{\sec(x)}{\sqrt{x}}\right)\left(\frac{9}{x^3}\right)$$

$$4) f(x) = (3\log(x))(\csc(x))(x^2)$$

$$5) y = \frac{\frac{1}{x} - \frac{3}{x^2}}{x^4}$$

$$6) f(x) = \frac{6}{\sin(x)} - \frac{x}{\tan(x)} + \frac{10}{\sec(x)}$$

$$7) y = \frac{4x \ln(x)}{e^x}$$

$$8) f(x) = \left(\frac{\frac{1}{x} + \frac{2}{\cos(x)}}{x^2}\right) - \left(\frac{xe^x}{\sec(x)}\right)$$