Student Name: _____ **Score:**

Derivatives using Product Rule

Sheet 2

Find the derivatives using product rule:

$y = \sqrt[5]{x}\ \cot 2x$

$y = \sin x\ \cos x$

$y = x^2\ \sin$

$y = e^{5x}\ \tan$ $- x)$

$y = (x + 5)$ $)$

$y = \frac{1}{2}\log(1 + 5x)\cos 6x$

$y = x\, e^{x^3 + 5x^2}$

Student Name: _____ Score:

Answer key

Derivatives using Product Rule

Sheet 2

$\frac{dy}{dx} = \frac{1}{5} x^{\frac{-4}{5}} \cot 2x - 2 x^{\frac{1}{5}} \csc^2 2x$

$\frac{dy}{dx} = \cos^2 x - \sin^2 x$

$\frac{dy}{dx} = 2x \sin x + x$ ... $\sqrt{x} \sec 6x \tan 6x$

$\frac{dy}{dx} = e^{5x}(5 \tan 4$ ... $3x^2 \log(1 + x)$

$\frac{dy}{dx} = 2 (x + 5)^2$ si ... $+ 7x^6 + 9)$

$\frac{dy}{dx} = \frac{5}{2} \frac{\cos 6x}{(1 + 5x)} - 3 \log(1 + 5x) \sin 6x$

$\frac{dy}{dx} = e^{x^3 + 5x^2}(3x^3 + 10x^2 + 1)$