Given $f(x)$ and $g(x)$ are differentiable…

$$\frac{d}{dx}[f(x) \cdot g(x)] = f'(x) \cdot g(x) + f(x) \cdot g'(x)$$

$$\frac{d}{dx}[f(x) \cdot g(x)] = f'(x) \cdot g(x) + f(x) \cdot g'(x)$$

Find the derivative of the following functions.

$h(x) = (2x^2 - 5x)(4x - 1)$

$$\frac{d}{dx}[f(x) \cdot g(x)] = f'(x) \cdot g(x) + f(x) \cdot g'(x)$$

Find the derivative of the following functions.

$h(x) = (x^3 + 3x)(x^2 + 3)$

$$\frac{d}{dx}[f(x) \cdot g(x)] = f'(x) \cdot g(x) + f(x) \cdot g'(x)$$

Find the derivative of the following functions.

$h(x) = 3x^3 \sin x$

$$\frac{d}{dx}[f(x) \cdot g(x)] = f'(x) \cdot g(x) + f(x) \cdot g'(x)$$

Find the derivative of the following functions.

$$h(x) = \sqrt{x} \, \cos x$$

Given $f(x)$, $g(x)$ and $h(x)$ are differentiable…

$$\frac{d}{dx}[f(x) \cdot g(x) \cdot h(x)] = f'(x) \cdot g(x) \cdot h(x) + f(x) \cdot g'(x) \cdot h(x) + f(x) \cdot g(x) \cdot h'(x)$$

$$\frac{d}{dx}[f(x){\cdot}g(x){\cdot}h(x)] \;=\; f'(x){\cdot}g(x){\cdot}h(x) \;+\; f(x){\cdot}g'(x){\cdot}h(x) \;+\; f(x){\cdot}g(x){\cdot}h'(x)$$

Find the derivative of the following functions.

$p(x) = x^2 \sin x \cos x$