Product Rule In Derivatives

$$\frac{\partial}{\partial x}\left[h(x) \cdot f(x)\right] = h'(x) f(x) + h(x) \cdot f'(x)$$

$$\frac{\partial (x^2 \cos x)}{\partial x} = \frac{\partial (x^2)}{\partial x} \cdot \cos x + x^2 \cdot \frac{\partial (\cos x)}{\partial x}$$

$$= 2x \cdot \cos x + x^2 \cdot \sin x$$

$$\frac{\partial (x^2 \cos x)}{\partial x} = 2x \cos x + x^2 \sin x$$

$f(x) = 4x^2$ $\quad$ $g(x) = \sin x$

Assig:

$$\frac{\partial (4x^2 \sin x)}{\partial x}$$