# 03 - Regla de la Cadena

1. $y = \tan(x^2)$

   $y' = \sec^2(x^2)(2x)$

2. $y = \text{Sin}(4x^2 + 2)$

   $y' = \cos(4x^2 + 2)(8x)$

3. $y = \sqrt[3]{3x^2 - e^x} = [3x^2 - e^x]^{1/3}$

   $$y' = \frac{1}{3}[3x^2 - e^x]^{-2/3}(6x - e^x)$$

4. $h(x) = 3\ln(4x - x^5) + e^{2x^2 + 7x - 8}$

   $$h'(x) = 3 \cdot \frac{1}{4x - x^5} \cdot (4 - 5x^4) + e^{2x^2 + 7x - 8} \cdot (4x + 7)$$

5. $f(x) = [\cos(x) + x^2]^4$

   $$f'(x) = 4[\cos(x) + x^2]^3(-\text{Sin}(x) + 2x)$$

6. $f(x) = 5\ln(\text{Sen}(x^2))$

   $$f'(x) = 5 \cdot \frac{1}{\text{Sen}(x^2)} \cdot \cos(x^2)(2x)$$

7. $g(x) = \left[e^{\tan(3x^2 - 6x + 2)}\right]^4$

   $$g'(x) = 4\left[e^{\tan(3x^2 - 6x + 2)}\right]^3 e^{\tan(3x^2 - 6x + 2)} \cdot \text{Sec}^2(3x^2 - 6x + 2) \cdot (6x - 6)$$