

# Derivadas resueltas

Aquiles Carattino  
<http://foro.soloexactas.com>

9 de agosto de 2006

## 1. Derivadas Resueltas

$$f(x) = 2 \cdot 5^x \ln x + x\sqrt{35} \quad (1)$$

$$f'(x) = 2 \cdot 5^x \cdot \ln 5 \ln x + 2 \cdot 5^x \cdot \frac{1}{x} + \sqrt{35} \quad (2)$$

$$f(x) = 7^x \ln 8 - x^5 \ln x \quad (3)$$

$$f'(x) = 7^x \ln 7 \ln 8 - 5x^4 \ln x - x^5 \cdot \frac{1}{x} \quad (4)$$

$$f(x) = \frac{2x^5(3x^5 + 3x^4 - 8x)}{3x^4} \quad (5)$$

$$f(x) = \frac{2x(3x^5 + 3x^4 - 8x)}{3} \quad (6)$$

$$f(x) = \frac{6x^6 + 6x^5 - 16x^2}{3} \quad (7)$$

$$f'(x) = \frac{1}{3}(36x^5 + 30x^4 - 32x) \quad (8)$$

(En la anterior cancelé el numerador y el denominador, y luego distribuí el producto para que fuera más fácil derivar)

$$f(x) = -5x^4(8\operatorname{tg}x) - \frac{2}{x^{-5}} + 3 \ln x + x^{\frac{7}{9}} \quad (9)$$

$$f'(x) = -20x^3(8\operatorname{tg}x) - 5x^4(8 \sec^2(x)) - 10x^4 + \quad (10)$$

$$+ \frac{3}{x} + \frac{7}{9}x^{-\frac{2}{9}} \quad (11)$$

$$f(x) = 3(1 + x^2) \arctan x - \cos x \sin x \quad (12)$$

$$f'(x) = 6x \arctan x + 3(1 + x^2) \frac{1}{1 + x^2} + \quad (13)$$

$$+ \sin^2 x - \cos^2 x \quad (14)$$

$$f(x) = \frac{x^4 + 5}{x^4 - 3} \quad (15)$$

$$f'(x) = \frac{4x^3(x^4 - 3) - 4x^3(x^4 + 5)}{(x^4 - 3)^2} \quad (16)$$

$$f(x) = \frac{\sqrt{x^5}}{x^{-4}} - 2 \frac{x^3}{x^6} \quad (17)$$

$$f(x) = x^{\frac{5}{2}} \cdot x^4 - \frac{2}{x^3} \quad (18)$$

$$f(x) = x^{\frac{13}{2}} - 2x^{-3} \quad (19)$$

$$f'(x) = \frac{13}{2}x^{\frac{11}{2}} + 6x^{-4} \quad (20)$$

$$f(x) = \frac{2}{5}x^{-\frac{2}{3}} \frac{1}{x^{\frac{12}{5}}} x^{\frac{4}{3}} \frac{1}{x^{-\frac{41}{15}}} \quad (21)$$

$$f(x) = \frac{2}{5}x^{-\frac{2}{3}} x^{-\frac{12}{5}} x^{\frac{4}{3}} x^{\frac{41}{15}} \quad (22)$$

$$f(x) = \frac{2}{5}x^{\frac{-10-36+20+41}{15}} \quad (23)$$

$$f(x) = \frac{2}{5}x^{\frac{15}{15}} = \frac{2}{5}x^1 \quad (24)$$

$$f'(x) = \frac{2}{5} \quad (25)$$