

Calcolare le seguenti derivate di funzioni reali (da considerare definite nel loro *dominio naturale*):

$$D(3x^5 + 2x^3 - 4x^2 + 5) = 15x^4 + 6x^2 - 8x$$

$$D(2x^6 - 3x^5 + 7x^2 - 16x) = 12x^5 - 15x^4 + 14x - 16$$

$$D\left(\frac{\cos x}{x + \operatorname{sen} x}\right) = -\frac{x \operatorname{sen} x + \cos x + 1}{(x + \operatorname{sen} x)^2}$$

$$D\left(\frac{\cos x}{x + e^x}\right) = -\frac{(x + e^x) \operatorname{sen} x + (e^x + 1) \cos x}{(x + e^x)^2}$$

$$D(\cos^5 x) = -5 \cos^4 x \operatorname{sen} x$$

$$D(\operatorname{sen}(x^2)) = 2x \cos(x^2)$$

$$D(\log(\log x)) = \frac{1}{x \log x}$$

$$D(\log(3x^2 + 5x - 2)) = \frac{6x + 5}{3x^2 + 5x - 2}$$

$$D(\log(5x^2 + 4x - 7)) = \frac{10x + 4}{5x^2 + 4x - 7}$$

$$D\left(e^{\frac{2x+3}{4x+5}}\right) = -\frac{2e^{\frac{2x+3}{4x+5}}}{(4x+5)^2}$$

$$D\left(5^{\frac{2x+3}{x+3}}\right) = \frac{3 \cdot 5^{\frac{2x+3}{x+3}} \log 5}{(x+3)^2}$$

$$D(-x^2 + 2x^2 \log x) = 4x \log x$$

$$D((7x^2 + x^5) \log(2 + e^x)) = (14x + 5x^4) \log(2 + e^x) + (7x^2 + x^5) \frac{e^x}{2 + e^x}$$

$$D(\sqrt{\cos x + 2}) = \frac{-\operatorname{sen} x}{2\sqrt{\cos x + 2}}$$

$$D\left(\frac{1}{x^2 + \log 2}\right) = \frac{-2x}{(x^2 + \log 2)^2}$$

$$D\left(\frac{2x-3}{x^2+1}\right) = \frac{-2x^2+6x+2}{(x^2+1)^2}$$

$$D(\arcsen(\log x)) = \frac{1}{x\sqrt{1-\log^2 x}}$$

$$D(\log(\arctg x)) = \frac{1}{(1+x^2)\arctg x}$$

$$D(\log(|\arctg x|)) = \frac{1}{(1+x^2)\arctg x}$$

$$D\left(\frac{x \log x}{x-1}\right) = \frac{x - \log x - 1}{(x-1)^2}$$

$$D\left(\log\left(\frac{1+x}{1-x}\right)\right) = \frac{2}{1-x^2}$$

$$D(\pi^8) = 0$$

$$D((1-e^{2x})\arccos(e^x)) = -e^x\sqrt{1-e^{2x}} - 2e^{2x}\arccos(e^x)$$

$$D(5^{\sqrt{4-x^2}}) = \frac{-x}{\sqrt{4-x^2}}5^{\sqrt{4-x^2}}\log 5$$

$$D(\log_3(1+\operatorname{tg}^2 x)) = \frac{2\operatorname{tg} x}{\log 3}$$

$$D(\log_x 7) = -\frac{\log 7}{x \log^2 x}$$

$$D(2^{x+1}\log(13x)) = 2^{x+1}\log 2\log(13x) + \frac{2^{x+1}}{x}$$

$$D(\log_4(x+1)\arcsen x) = \frac{1}{\log 4}\left(\frac{\arcsen x}{x+1} + \frac{\log(x+1)}{\sqrt{1-x^2}}\right)$$

$$D\left(\frac{\arccos x}{\sqrt{1-x^2}}\right) = -\frac{1}{1-x^2} + \frac{x \arccos x}{(1-x^2)^{3/2}}$$

$$D(\operatorname{tg}(1-\log_7 x)) = -\frac{1}{x \log 7 \cdot \cos^2(1-\log_7 x)}$$