Tabela de Derivadas

Considere: $u = u(x)$, $v = v(x)$, $y' = \dfrac{dy}{dx}$ e $u' = \dfrac{du}{dx}$

"k" , "a" e "α" como constantes.

Propriedade: Linearidade $\dfrac{d}{dx}(ku + v) = k\dfrac{d}{dx}(u) + \dfrac{d}{dx}(v)$

Fórmulas:

1) $y = k$	$y' = 0$	11) $y = sen\, u$	$y' = u' \cos u$
2) $y = ku$	$y' = ku'$	12) $y = \cos u$	$y' = -u'\, sen\, u$
3) $y = u^{\alpha}$	$y' = \alpha u^{\alpha-1} u'$	13) $y = tg\, u$	$y' = u'\, sec^2 u$
4) $y = a^u$, $a \neq 1$ e $a > 0$	$y' = \ln a\; a^u\; u'$	14) $y = cotg\, u$	$y' = -u'\, cosec^2 u$
5) $y = e^u$	$y' = e^u u'$	15) $y = sec\, u$	$y' = u'\, tg\, u\, sec\, u$
6) $y = \log_a u$	$y' = \dfrac{1}{\ln a}\dfrac{u'}{u}$	16) $y = cosec\, u$	$y' = -u'\, cotg\, u\, cosec\, u$
7) $y = \ln u$	$y' = \dfrac{u'}{u}$	17) $y = arcsen\, u$	$y' = \dfrac{1}{\sqrt{1-u^2}}\, u'$
8) $y = u.v$	$y' = u.v' + v.u'$	18) $y = arctg\, u$	$y' = \dfrac{1}{1+u^2}\, u'$
9) $y = \dfrac{u}{v}$	$y' = \dfrac{v.u' - u.v'}{v^2}$	19) $y = senh\, u$	$y' = u'\, cosh\, u$
10) $y = u^v$	$y' = v\, u^{v-1} u' + u^v \ln u\; v'$	20) $y = cosh\, u$	$y' = u'\, senh\, u$

Regra da Cadeia: $u = u(x)$ e $x = x(t)$ então: $\dfrac{du}{dt} = \dfrac{du}{dx} \cdot \dfrac{dx}{dt}$ (função composta)

Paramétrica: $y = y(t)$ e $x = x(t)$ então: $\dfrac{dy}{dx} = \dfrac{\frac{dy}{dt}}{\frac{dx}{dt}}$

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