TABELA DE DERIVADAS

Nesta tabela u e v são funções deriváveis de x e c, α e a são constantes.

(1) $y = c \Rightarrow y' = 0$

(2) $y = x \Rightarrow y' = 1$

(3) $y = c \cdot u \Rightarrow y' = c \cdot u'$

(4) $y = u + v \Rightarrow y' = u' + v'$

(5) $y = u \cdot v \Rightarrow y' = u \cdot v' + v \cdot u'$

(6) $y = \frac{u}{v} \Rightarrow y' = \frac{v \cdot u' - u \cdot v'}{v^2}$

(7) $y = u^{\alpha}, (\alpha \neq 0) \Rightarrow y' = \alpha \cdot u^{\alpha - 1} \cdot u'$

(8) $y = a^u \ (a > 0, a \neq 1) \Rightarrow y' = a^u \cdot \ln a \cdot u'$

(9) $y = e^u \Rightarrow y' = e^u \cdot u'$

(10) $y = \log_a u \Rightarrow y' = \frac{u'}{u} \log_a e$

(11) $y = \ln u \Rightarrow y' = \frac{u'}{u}$

(12) $y = u^v \Rightarrow y' = v \cdot u^{v-1} \cdot u' + u^v \cdot \ln u \cdot v' \ (u > 0)$

(13) $y = \text{sen } u \Rightarrow y' = \cos u \cdot u'$

(14) $y = \cos u \Rightarrow y' = -\text{sen } u \cdot u'$

(15) $y = \text{tg } u \Rightarrow y' = \sec^2 u \cdot u'$

(16) $y = \text{cotg } u \Rightarrow y' = -\text{cosec}^2 u \cdot u'$

(17) $y = \sec u \Rightarrow y' = \sec u \cdot \text{tg } u \cdot u'$

(18) $y = \text{cosec } u \Rightarrow y' = -\text{cosec } u \cdot \text{cotg } u \cdot u'$

(19) $y = \text{arc sen } u \Rightarrow y' = \frac{u'}{\sqrt{1 - u^2}}$

(20) $y = \text{arc cos } u \Rightarrow y' = \frac{-u'}{\sqrt{1 - u^2}}$

(21) $y = \text{arc tg } u \Rightarrow y' = \frac{u'}{1 + u^2}$

(22) $y = \text{arc cotg } u \Rightarrow y' = \frac{-u'}{1 + u^2}$

(23) $y = \text{arc sec } u, |u| \geq 1 \Rightarrow y' = \frac{u'}{|u| \sqrt{u^2 - 1}}, \ |u| > 1$

(24) $y = \text{arc cosec } u, |u| \geq 1 \Rightarrow y' = \frac{-u'}{|u| \sqrt{u^2 - 1}}, \ |u| > 1$

(25) $y = \text{senh } u \Rightarrow y' = \cosh u \cdot u'$

(26) $y = \cosh u \Rightarrow y' = \text{senh } u \cdot u'$

(27) $y = \text{tgh } u \Rightarrow y' = \text{sech}^2 u \cdot u'$

(28) $y = \text{cotgh } u \Rightarrow y' = -\text{cosech}^2 u \cdot u'$

(29) $y = \text{sech } u \Rightarrow y' = -\text{sech } u \cdot \text{tgh } u \cdot u'$

(30) $y = \text{cosech } u \Rightarrow y' = -\text{cosech } u \cdot \text{cotgh } u \cdot u'$

(31) $y = \text{arg senh } u \Rightarrow y' = \frac{u'}{\sqrt{u^2 + 1}}$

(32) $y = \text{arg cosh } u \Rightarrow y' = \frac{u'}{\sqrt{u^2 - 1}}, \ u > 1$

(33) $y = \text{arg tgh } u \Rightarrow y' = \frac{u'}{1 - u^2}, \ |u| < 1$