



TABELA – Derivadas

- **Derivadas:** Sejam u e v funções deriváveis de x e n constante.

1. $y = u^n \Rightarrow y' = n u^{n-1} u'.$
2. $y = u v \Rightarrow y' = u' v + v' u.$
3. $y = \frac{u}{v} \Rightarrow y' = \frac{u' v - v' u}{v^2}.$
4. $y = a^u \Rightarrow y' = a^u (\ln a) u', \quad (a > 0, a \neq 1).$
5. $y = e^u \Rightarrow y' = e^u u'.$
6. $y = \log_a u \Rightarrow y' = \frac{u'}{u} \log_a e.$
7. $y = \ln u \Rightarrow y' = \frac{1}{u} u'.$
8. $y = u^v \Rightarrow y' = v u^{v-1} u' + u^v (\ln u) v'.$
9. $y = \operatorname{sen} u \Rightarrow y' = u' \cos u.$
10. $y = \cos u \Rightarrow y' = -u' \operatorname{sen} u.$
11. $y = \operatorname{tg} u \Rightarrow y' = u' \sec^2 u.$
12. $y = \operatorname{cotg} u \Rightarrow y' = -u' \operatorname{cosec}^2 u.$
13. $y = \sec u \Rightarrow y' = u' \sec u \operatorname{tg} u.$
14. $y = \operatorname{cosec} u \Rightarrow y' = -u' \operatorname{cosec} u \operatorname{cotg} u.$
15. $y = \operatorname{arc} \operatorname{sen} u \Rightarrow y' = \frac{u'}{\sqrt{1-u^2}}.$
16. $y = \operatorname{arc} \cos u \Rightarrow y' = \frac{-u'}{\sqrt{1-u^2}}.$
17. $y = \operatorname{arc} \operatorname{tg} u \Rightarrow y' = \frac{u'}{1+u^2}.$
18. $y = \operatorname{arc} \operatorname{cotg} u \Rightarrow y' = \frac{-u'}{1+u^2}.$
19. $y = \operatorname{arc} \sec u, |u| \geq 1 \Rightarrow y' = \frac{u'}{|u| \sqrt{u^2-1}}, |u| > 1.$
20. $y = \operatorname{arc} \operatorname{cosec} u, |u| \geq 1 \Rightarrow y' = \frac{-u'}{|u| \sqrt{u^2-1}}, |u| > 1.$