Universidade de São Paulo
Escola Superior de Agricultura "Luiz de Queiroz"
Departamento de Ciências Exatas
LCE 0120 - Cálculo I
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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. $y = \dfrac{u}{v} \Rightarrow y' = \dfrac{u'v - v'u}{v^2}$.
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. $y = \log_a u \Rightarrow y' = \dfrac{u'}{u} \log_a e$.
7. $y = \ln u \Rightarrow y' = \dfrac{1}{u} u'$.
8. $y = u^v \Rightarrow y' = v\, u^{v-1}\, u' + u^v (\ln u)\, v'$.
9. $y = \text{sen}\, u \Rightarrow y' = u' \cos u$.
10. $y = \cos u \Rightarrow y' = -u' \text{sen}\, u$.
11. $y = \text{tg}\, u \Rightarrow y' = u' \sec^2 u$.
12. $y = \text{cotg}\, u \Rightarrow y' = -u' \text{cosec}^2 u$.
13. $y = \sec u \Rightarrow y' = u' \sec u\, \text{tg}\, u$.
14. $y = \text{cosec}\, u \Rightarrow y' = -u' \text{cosec}\, u\, \text{cotg}\, u$.
15. $y = arc\,\text{sen}\, u \Rightarrow y' = \dfrac{u'}{\sqrt{1-u^2}}$.
16. $y = arc\cos u \Rightarrow y' = \dfrac{-u'}{\sqrt{1-u^2}}$.
17. $y = arc\,\text{tg}\, u \Rightarrow y' = \dfrac{u'}{1+u^2}$.
18. $y = arc\cot g\, u \Rightarrow \dfrac{-u'}{1+u^2}$.
19. $y = arc\sec u, |u| \geq 1 \Rightarrow y' = \dfrac{u'}{|u|\sqrt{u^2-1}}, |u| > 1$.
20. $y = arc\,\text{cosec}\, u, |u| \geq 1 \Rightarrow y' = \dfrac{-u'}{|u|\sqrt{u^2-1}}, |u| > 1$.