Regras de Derivação

K constante, $n \in \mathbb{R}\backslash\{-1\}$, u e v funções diferenciaveis

1. $K' = 0$
2. $(Ku)' = Ku'$
3. $(x^n)' = nx^{n-1}$
4. $(u^n)' = nu^{n-1}u'$
5. $(u+v)' = u' + v'$
6. $(u.v)' = u'v + uv'$
7. $(\frac{u}{v})' = \frac{u'v - uv'}{v^2}$
8. $(\sin u)' = u' \cos u$
9. $(\cos u)' = -u' \sin u$
10. $(\tan u)' = u' \sec^2 u$
11. $(\text{cotg } u)' = -u' \text{cosec}^2 u$
12. $(\sec u)' = u' \sec u \tan u$
13. $(\text{cosec } u)' = -u' \text{cosec } u \text{ cotg } u$
14. $(\arcsin u)' = \frac{u'}{\sqrt{1-u^2}}$
15. $(\arccos u)' = -\frac{u'}{\sqrt{1-u^2}}$
16. $(\text{arctg } u)' = \frac{u'}{1+u^2}$
17. $(\text{arccotg } u)' = -\frac{u'}{1+u^2}$
18. $(\text{arcsec } u)' = \frac{u'}{\lvert u \rvert \sqrt{u^2-1}}$
19. $(\text{arccosec } u)' = -\frac{u'}{\lvert u \rvert \sqrt{u^2-1}}$
20. $(e^x)' = e^x$
21. $(e^u)' = u'e^u$
22. $(a^u)' = u'a^u \ln a$
23. $(\ln x)' = \frac{1}{x}$
24. $(\ln u)' = \frac{u'}{u}$
25. $(\log_a u)' = \frac{u'}{u \ln a}$
26. $(u^v)' = vu^{v-1}u' + u^v v' \ln u$
27. $(\text{sh } u)' = u' \text{ch } u$
28. $(\text{ch } u)' = u' \text{sh } u$
29. $(\text{tgh })' = u' \text{sech}^2 u$
30. $(\text{argsh } u)' = \frac{u'}{\sqrt{u^2+1}}$
31. $(\text{argch } u)' = \frac{u'}{\sqrt{u^2-1}}$
32. $(\text{argtgh } u)' = \frac{u'}{1-u^2}$