



Regras de derivação

Na lista de derivadas que se segue, omitem-se os domínios das funções.

1. $C' = 0$, sendo C uma constante

3. $(f(x) + g(x))' = f'(x) + g'(x)$

5. $(f(x)g(x))' = f'(x)g(x) + f(x)g'(x)$

7. $(f \circ g)'(x) = f'(g(x))g'(x)$

9. $(e^{f(x)})' = f'(x)e^{f(x)}$

11. $(a^{f(x)})' = f'(x)a^{f(x)} \ln a$

13. $((f(x))^{g(x)})' = g(x)(f(x))^{g(x)-1}f'(x) + g'(x)(f(x))^{g(x)} \ln f(x)$

14. $(\operatorname{sen} f(x))' = f'(x) \cos f(x)$

16. $(\operatorname{tg} f(x))' = \frac{f'(x)}{\cos^2 f(x)}$

18. $(\operatorname{sh} f(x))' = f'(x) \operatorname{ch} f(x)$

20. $(\operatorname{th} f(x))' = \frac{f'(x)}{\operatorname{ch}^2 f(x)}$

22. $(\operatorname{arcsen} f(x))' = \frac{f'(x)}{\sqrt{1-f^2(x)}}$

24. $(\operatorname{arctg} f(x))' = \frac{f'(x)}{1+f^2(x)}$

26. $(\operatorname{argsh} f(x))' = \frac{f'(x)}{\sqrt{1+f^2(x)}}$

28. $(\operatorname{argth} f(x))' = \frac{f'(x)}{1-f^2(x)}$

2. $(kf(x))' = kf'(x) \quad (k \in \mathbb{R})$

4. $(f^\alpha(x))' = \alpha f^{\alpha-1}(x)f'(x) \quad (\alpha \in \mathbb{R})$

6. $\left(\frac{f(x)}{g(x)}\right)' = \frac{f'(x)g(x) - f(x)g'(x)}{g^2(x)}$

8. $(f^{-1})'(x) = \frac{1}{f'(f^{-1}(x))}$

10. $(\ln f(x))' = \frac{f'(x)}{f(x)}$

12. $(\log_a f(x))' = \frac{f'(x)}{f(x)} \log_a e$

15. $(\cos f(x))' = -f'(x) \operatorname{sen} f(x)$

17. $(\operatorname{cotg} f(x))' = \frac{-f'(x)}{\operatorname{sen}^2 f(x)}$

19. $(\operatorname{ch} f(x))' = f'(x) \operatorname{sh} f(x)$

21. $(\operatorname{coth} f(x))' = \frac{-f'(x)}{\operatorname{sh}^2 f(x)}$

23. $(\operatorname{arccos} f(x))' = \frac{-f'(x)}{\sqrt{1-f^2(x)}}$

25. $(\operatorname{arccotg} f(x))' = \frac{-f'(x)}{1+f^2(x)}$

27. $(\operatorname{argch} f(x))' = \frac{f'(x)}{\sqrt{f^2(x)-1}}$

29. $(\operatorname{argcoth} f(x))' = \frac{f'(x)}{1-f^2(x)}$
