FORMULES DE DÉRIVATION

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1 c'= 0 cÎÂ

2 $(u+v)' = u' + v'$

3 $(uv)' = u'v + uv'$

4 $\left(\dfrac{u}{v}\right)' = \dfrac{u'v - uv'}{v^2}$

5 $[f(g(x))]' = f'(g(x))\, g'(x)$

6 $(u^n)' = n\, u^{n-1}\, u'$

7 $(e^u)' = u'e^u$

8 $(a^u)' = u'a^u \ln a$

9 $(\ln|u|)' = \dfrac{u'}{u}$

10 $(\log_a |u|)' = \dfrac{u'}{u \ln a}$

11 $(\sin u)' = u' \cos u$

12 $(\cos u)' = -u' \sin u$

13 $(\mathrm{tg}\, u)' = u' \sec^2 u$

14 $(\mathrm{cotg}\, u)' = -u' \mathrm{cosec}^2 u$

15 $(\sec u)' = u' \sec u \,\mathrm{tg}\, u$

16 $(\mathrm{cosec}\, u)' = -u' \,\mathrm{cosec}\, u \,\mathrm{cotg}\, u$

17 $(\arcsin u)' = \dfrac{u'}{\sqrt{1-u^2}}$

18 $(\arccos u)' = \dfrac{-u'}{\sqrt{1-u^2}}$

19 $(\mathrm{arctg}\, u)' = \dfrac{u'}{1+u^2}$

20 $(\mathrm{arcotg}\, u)' = \dfrac{-u'}{1+u^2}$

21* $(\mathrm{arcsec}\, u)' = \dfrac{u'}{|u|\sqrt{u^2-1}}$

22* $(\mathrm{arcosec}\, u)' = \dfrac{-u'}{|u|\sqrt{u^2-1}}$

23 $(\sinh u)' = u' \cosh u$

24 $(\cosh u)' = u' \sinh u$

25 $(\mathrm{tgh}\, u)' = u' \,\mathrm{sech}^2 u$

26 $(\mathrm{cotgh}\, u)' = -u' \,\mathrm{cosech}\, u$

27 $(\mathrm{sech}\, u)' = -u' \,\mathrm{sech}\, u \,\mathrm{tgh}\, u$

28 $(\mathrm{cosech}\, u)' = -u' \,\mathrm{cosech}\, u \,\mathrm{cotgh}\, u$

29 $(\mathrm{arcsinh}\, u)' = \dfrac{u'}{\sqrt{1+u^2}}$

30 $(\mathrm{arcosh}\, u)' = \dfrac{u'}{\sqrt{u^2-1}}$, $u \geq 1$

31 $(\mathrm{arctgh}\, u)' = \dfrac{u'}{1-u^2}$, $|u| < 1$

32 $(\mathrm{arcotgh}\, u)' = \dfrac{u'}{1-u^2}$, $|u| > 1$

33 $(\mathrm{arcsech}\, u)' = \dfrac{-u'}{u\sqrt{1-u^2}}$, $0 < u \leq 1$

34 $(\mathrm{arcosech}\, u)' = \dfrac{-u'}{u\sqrt{u^2+1}}$

35 $|u|' = \dfrac{u'|u|}{u}$

36 $(E[u])' = \dfrac{0 \cdot (u - E[u])u'}{(u - E[u])}$

où E[u] est la partie entière de u

(*) Dépend de la définition de la fonction.

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