# FORMULES DE DÉRIVATION

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**1** $c' = 0$ cÎÂ

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

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

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

**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** $(\ln|u|)' = \frac{u'}{u}$

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

**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** $(\arcsin u)' = \frac{u'}{\sqrt{1-u^2}}$

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

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

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

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

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

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

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

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

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

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

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

**35** $|u|' = \frac{u'|u|}{u}$

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

où $E$[u] est la partie entière de $u$

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(*) Dépend de la définition de la fonction.

**page précédente**