Formulaire de dérivation

$c' = 0$

$x' = 1$

$(u^n)' = n.u^{n-1}.u'$

$\left(\dfrac{1}{u}\right)' = -\dfrac{1}{u^2}.u'$

$(\sqrt{u})' = \dfrac{1}{2\sqrt{u}}.u'$

$\left(\dfrac{1}{\sqrt{u}}\right)' = -\dfrac{1}{2.\sqrt{u^3}}.u'$

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

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

$(\ln|u|)' = \dfrac{1}{u}.u'$

$(\log_a|u|)' = \dfrac{1}{u.\ln a}.u'$

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

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

$(\tan u)' = \dfrac{1}{\cos^2 u}.u' = (1+\tan^2 u)u'$

$(\cot u)' = -\dfrac{1}{\sin^2 u}.u'$

$(\sec u)' = \left(\dfrac{1}{\cos u}\right)' = \sec u.\tan u.u'$

$(\operatorname{cosec} u)' = \left(\dfrac{1}{\sin u}\right)' = -\operatorname{cosec} u.\cot u.u'$

$(\operatorname{Arc\,sin} u)' = \dfrac{1}{\sqrt{1-u^2}}.u'$

$(\operatorname{Arc\,cos} u)' = -\dfrac{1}{\sqrt{1-u^2}}.u'$

$(\operatorname{Arc\,tan} u)' = \dfrac{1}{1+u^2}.u'$

$(\operatorname{Arc\,sec} u)' = \dfrac{1}{u.\sqrt{u^2-1}}.u'$

Formulaire d'intégration

$\int c\,du = cu + C$

$\int dx = x + C$

$\int u^n\,du = \dfrac{1}{n+1}u^{n+1} + C;\quad n \neq -1$

$\int \dfrac{1}{u}\,du = \ln|u| + C$

$\int \sqrt{u}\,du = \dfrac{2}{3}\sqrt{u^3}$

$\int \dfrac{1}{\sqrt{u}}\,du = 2\sqrt{u} + C$

$\int e^u\,du = e^u + C$

$\int a^u\,du = \dfrac{1}{\ln a}.a^u + C$

$\int \ln x\,dx = x.\ln x - x + C$

$\int \sin u\,du = -\cos u + C$

$\int \cos u\,du = \sin u + C$

$\int \tan u\,du = -\ln|\cos u| + C$

$\int \cot u\,du = \ln|\sin u| + C$

$\int \sec u\,du = \ln|\sec u + \tan u| + C$

$\int \operatorname{cosec} u\,du = \ln|\operatorname{cosec} u - \cot u| + C$

$\int \dfrac{1}{\sqrt{a^2-u^2}}\,du = \operatorname{Arc\,sin}\dfrac{u}{a} + C$

$\int \dfrac{1}{\sqrt{u^2-a^2}}\,du = \ln\left|u + \sqrt{u^2-a^2}\right| + C$

$\int \dfrac{1}{a^2-u^2}\,du = \dfrac{1}{2a}.\ln\left|\dfrac{u+a}{u-a}\right| + C;\ a^2 > x^2$

$\int \dfrac{1}{a^2+u^2}\,du = \dfrac{1}{a}.\operatorname{Arc\,tan}\dfrac{u}{a} + C$

$\int \dfrac{1}{u.\sqrt{u^2-a^2}}\,du = \dfrac{1}{a}.\operatorname{Arc\,sec}\dfrac{u}{a} + C$

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