Tabla de derivadas e integrales

Realizada con pythontex usando sympy y pandas

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Función	Derivada	Integral
$f(x) = k$	$f'(x) = 0$	$\int k\,dx = kx + C$
$f(x) = x$	$f'(x) = 1$	$\int x\,dx = \frac{x^2}{2} + C$
$f(x) = x^n$	$f'(x) = \frac{nx^n}{x}$	$\int x^n\,dx = \frac{x^{n+1}}{n+1} + C$
$f(x) = \frac{1}{x}$	$f'(x) = -\frac{1}{x^2}$	$\int \frac{1}{x}\,dx = \ln(x) + C$
$f(x) = \sqrt{x}$	$f'(x) = \frac{1}{2\sqrt{x}}$	$\int \sqrt{x}\,dx = \frac{2x^{\frac{3}{2}}}{3} + C$
$f(x) = x^{\frac{1}{n}}$	$f'(x) = \frac{x^{\frac{1}{n}}}{nx}$	$\int x^{\frac{1}{n}}\,dx = \frac{x^{1+\frac{1}{n}}}{1+\frac{1}{n}} + C$
$f(x) = a^x$	$f'(x) = a^x \ln(a)$	$\int a^x\,dx = \begin{cases} \frac{a^x}{\ln(a)} & \text{for } \ln(a) \neq 0 \\ x & \text{otherwise} \end{cases} + C$
$f(x) = e^x$	$f'(x) = e^x$	$\int e^x\,dx = e^x + C$
$f(x) = \sin(x)$	$f'(x) = \cos(x)$	$\int \sin(x)\,dx = -\cos(x) + C$
$f(x) = \cos(x)$	$f'(x) = -\sin(x)$	$\int \cos(x)\,dx = \sin(x) + C$
$f(x) = \tan(x)$	$f'(x) = \tan^2(x) + 1$	$\int \tan(x)\,dx = -\ln(\cos(x)) + C$
$f(x) = \cot(x)$	$f'(x) = -\cot^2(x) - 1$	$\int \cot(x)\,dx = \ln(\sin(x)) + C$
$f(x) = \frac{1}{\cos^2(x)}$	$f'(x) = \frac{2\sin(x)}{\cos^3(x)}$	$\int \frac{1}{\cos^2(x)}\,dx = \frac{\sin(x)}{\cos(x)} + C$
$f(x) = \frac{1}{\sin^2(x)}$	$f'(x) = -\frac{2\cos(x)}{\sin^3(x)}$	$\int \frac{1}{\sin^2(x)}\,dx = -\frac{\cos(x)}{\sin(x)} + C$
$f(x) = \frac{1}{\sqrt{1-x^2}}$	$f'(x) = \frac{x}{(1-x^2)^{\frac{3}{2}}}$	$\int \frac{1}{\sqrt{1-x^2}}\,dx = \operatorname{asin}(x) + C$
$f(x) = \frac{1}{x^2+1}$	$f'(x) = -\frac{2x}{(x^2+1)^2}$	$\int \frac{1}{x^2+1}\,dx = \operatorname{atan}(x) + C$
$f(x) = \frac{1}{a^2+x^2}$	$f'(x) = -\frac{2x}{(a^2+x^2)^2}$	$\int \frac{1}{a^2+x^2}\,dx = \frac{\operatorname{atan}\left(\frac{x}{a}\right)}{a} + C$