$$\int (f(x) \pm g(x))\,dx = \int f(x)\,dx \pm \int g(x)\,dx$$

$$\int k \cdot f(x)\,dx = k \int f(x)\,dx$$

$$\int 0\,dx = C$$

$$\int x^\alpha\,dx = \frac{x^{\alpha+1}}{\alpha+1} + C$$

$$\int \frac{1}{x}\,dx = \ln|x| + C$$

$$\int a^x\,dx = \frac{a^x}{\ln a} + C$$

$$\int e^x\,dx = e^x + C$$

$$\int \sin x\,dx = -\cos x + C$$

$$\int \cos x\,dx = \sin x + C$$

$$\int \frac{1}{\cos^2 x}\,dx = \operatorname{tg} x + C$$

$$\int \frac{1}{\sin^2 x}\,dx = -\operatorname{ctg} x + C$$

$$\int \frac{1}{\sqrt{1-x^2}}\,dx = \arcsin x + C$$

$$\int \frac{1}{1+x^2}\,dx = \operatorname{arctg} x + C$$

$$\int \ln x = x\ln x - x + C$$

$$\int \frac{f'(x)}{f(x)}\,dx = \ln|f(x)| + C$$

$$\int f'(x) f^\alpha(x)\,dx = \frac{f(x)^{\alpha+1}}{\alpha+1} + C$$

$$\int f'(x) \sin f(x)\,dx = -\cos f(x) + C$$

$$\int \frac{f'(x)}{\sqrt{1-f^2(x)}}\,dx = \arcsin f(x) + C$$

$$(c \cdot f)' = (c \cdot f)'$$

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

$$(f+g)' = f' + g'$$

$$(f \cdot g)' = f' \cdot g + f \cdot g'$$

$$(f^{-1})'(y) = \frac{1}{f'(y)}$$

$$(f(g(x)))' = f'(g(x)) \cdot g'(x)$$

$$(f \circ g)'(x) = f'(g(x))' = f'(g(x)) \cdot g'(x)$$

$$(\ln x)' = \frac{1}{x}$$

$$(e^{\ln x})' = e^{\ln x}$$

$$(\ln g(x))' = \frac{1}{g(x)}$$

$$(x^\alpha)' = \alpha \cdot x^{\alpha-1}$$

$$(\log_a x)' = \frac{1}{x \ln a}$$

$$(a^x)' = a^x \ln a$$

$$(\sin x)' = \cos x$$

$$(\cos x)' = -\sin x$$

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

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

$$(\operatorname{tg} x)' = \frac{1}{\cos^2 x}$$

$$(\operatorname{ctg} x)' = -\frac{1}{\sin^2 x}$$

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

$$(\operatorname{arcctg} x)' = -\frac{1}{1+x^2}$$

e: $y' = fy^2 + gy + h$ $\quad u' = (g + 2vf)u + fu^2$ $\quad (y = u + v)$

B: $y' + fy = gy^\alpha$ $\quad u' + (1-\alpha) f u = g(1-\alpha)$ $\quad u = y^{1-\alpha}$ $\quad y = u^{\frac{1}{1-\alpha}}$

Lin: $y' = fy + g$ $\quad y = e^{F} \cdot \int g\, e^{-F}$

v. Lu—.

$u = \frac{y}{x} \Rightarrow y = u \cdot x$ $\quad y' = u'x - u$

Képletek:

Szétválasztható: $y'(x) = f(x)\, g(y(x))$

Megy: $\frac{dy}{dx} = f(x)\, g(y)$

$\frac{dy}{g(y)} = f(x)\, dx$

$\int \frac{dy}{g(y)} = \int f(x)\, dx$

$y = \dots$

Változóiban homogén: $y'(x) = f\left(\frac{y(x)}{x}\right)$

Megy: $u(x) = \frac{y(x)}{x}$

$y(x) = x \cdot u(x)$

$y'(x) = u(x) + x u'(x) = f(u(x))$

$u'(x) = \frac{1}{x}\left(f(u(x)) - u(x)\right)$

Elsőkadú lineáris: $y'(x) + f(x)\, y(x) = g(x)$

$y'(x) + f(x)\, y(x) = 0$

Bernoulli: $y'(x) + f(x)\, y(x) = g(x)\, y(x)^{\alpha}$

Megy: $u(x) = y(x)^{1-\alpha}$

$y(x) = u(x)^{\frac{1}{1-\alpha}}$

$u'(x) + (1-\alpha) f(x)\, u(x) = g(x)(1-\alpha)$

Riccati: $y'(x) = f(x)\, y(x)^2 + g(x) y(x) + h(x)$

Megy: $y = u + v$

$u'(x) = \left(g(x) + 2v(x) \cdot f(x)\right) u(x) + f(x) \cdot u(x)^2$