

Umum

$$\int x^n dx = \begin{cases} \frac{1}{n+1} x^{n+1} + C & n \neq -1 \\ \ln|x| + C & n = -1 \end{cases}$$

Eksponen dan bilangan natural

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

$$\int a^x dx = \frac{a^x}{\ln(a)} + C; \quad a \neq 1 \wedge a > 0$$

Logaritma dan bilangan natural

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

$$\int \ln(x) dx = x \ln(x) - x + C = x \ln\left(\frac{x}{e}\right) + C$$

$$\int \log_a(x) dx = x \log_a(x) - \frac{x}{\ln(a)} + C = x \log_a\left(\frac{x}{e}\right) + C$$

Terbalik

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

$$\int \frac{1}{1+x^2} dx = \arctan(x) + C$$

$$\int \frac{1}{x\sqrt{x^2-1}} dx = \operatorname{arcsec}(x) + C$$

Hiperbolik

$$\int \sinh(x) dx = \cosh(x) + C$$

$$\int \cosh(x) dx = \sinh(x) + C$$

Panjang busur

Sumbu x

$$S = \int_{x_1}^{x_2} \sqrt{1 + (f'(x))^2} dx$$

Sumbu y

$$S = \int_{y_1}^{y_2} \sqrt{1 + (f'(y))^2} dy$$

Luas daerah

Satu kurva

Sumbu x

$$L = \int_{x_1}^{x_2} f(x) dx$$

Sumbu y

$$L = \int_{y_1}^{y_2} f(y) dy$$

Dua kurva

Sumbu x

$$L = \int_{x_1}^{x_2} (f(x_2) - f(x_1)) dx$$

Sumbu y

$$L = \int_{y_1}^{y_2} (f(y_2) - f(y_1)) dy$$

atau juga $L = \frac{D\sqrt{D}}{6a^2}$

Luas permukaan benda putar

Sumbu x sebagai poros

$$L = 2\pi \int_{x_1}^{x_2} f(x) ds$$

dengan

$$ds = \sqrt{1 + (f'(x))^2} dx$$

Sumbu y sebagai poros

$$L = 2\pi \int_{y_1}^{y_2} f(y) ds$$

dengan

$$ds = \sqrt{1 + (f'(y))^2} dy$$

Trigonometri

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

$$\int \cos(x) dx = \sin(x) + C$$

$$\int \tan(x) dx = \ln |\sec(x)| + C$$

$$\int \cot(x) dx = -\ln |\csc(x)| + C$$

$$\int \sec(x) dx = \ln |\sec(x) + \tan(x)| + C$$

$$\int \csc(x) dx = -\ln |\csc(x) + \cot(x)| + C$$

$$\int \sin^2(x) dx = \frac{1}{2}(x - \sin(x)\cos(x)) + C$$

$$\int \cos^2(x) dx = \frac{1}{2}(x + \sin(x)\cos(x)) + C$$

$$\int \tan^2(x) dx = \tan(x) - x + C$$

$$\int \cot^2(x) dx = -\cot(x) - x + C$$

$$\int \sec^2(x) dx = \tan(x) + C$$

$$\int \csc^2(x) dx = -\cot(x) + C$$

$$\int \sec(x)\tan(x) dx = \sec(x) + C$$

$$\int \csc(x)\cot(x) dx = -\csc(x) + C$$