

Integration by Parts

Formula

Derives from the product rule

In general,

$$\int \theta \cos(\pi\theta) d\theta$$

$$\int \ln(x + x^2) dx$$

$$\int u dv = uv - \int v du$$

$$\int x^3 \sin x dx$$

Tabular integration

$$\int x^3 e^x dx$$

$$\int t^2 e^{4t} dt$$

$$\int \frac{\ln x \, dx}{x + 5x \ln^2 x}$$

$$\int e^{-y} \cos y \, dy$$