

VIDEO PLAYLIST: parkermaths.com/y2parts

INTEGRATION BY PARTS ▶ INDEFINITE INTEGRALS ▶ KEY FACTS

INTEGRATION BY PARTS

$$\int u \frac{dv}{dx} dx = uv - \int v \frac{du}{dx} dx$$

1st choice for u

2nd choice (simple functions, such as x or x^2)

Unlikely to be chosen as u

Logs Algebra Trigonometry Exponentials

INTEGRATION BY PARTS ▶ INDEFINITE INTEGRALS ▶ EXAMPLE PROBLEM PAIRS

1E. $\int 2x \cos x dx$

1P. $\int 5xe^x dx$

2E. $\int (3x-2)e^{3x} dx$

2P. $\int (2x+4) \sin 2x dx$

3E. $\int 4x \ln x dx$

3P. $\int x^2 \ln x dx$

4E. $\int \ln x \, dx$

4P. $\int 3 \ln(5x) \, dx$

 INTEGRATION BY PARTS TWICE ▶ INDEFINITE INTEGRALS ▶ EXAMPLE PROBLEM PAIRS

5E. $\int 3x^2 \sin 3x \, dx$

5P. $\int 4x^2 e^{2x} \, dx$