

Integration by Parts¹

Find the following integrals:

$$\int t \cos(3t) dt \quad (1)$$

$$\int t^2 \cos(3t) dt \quad (2)$$

$$\int_{-1}^2 x e^{-x^2} dx \quad (3)$$

$$\int e^{-x^2} dx \quad (4)$$

$$\int e^{2x} \sin(x) dx \quad (5)$$

$$\int \ln(x) dx \quad (6)$$

For the last problem, try using $v' = 1$. Sneaky, eh?

¹and other integrations techniques, too.