



Physics. *You work it out.*

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Integration by Parts 4

A Level Further A



Find $\int \frac{\ln(\sin x)}{\cos^2 x} dx$.

The following symbols may be useful: k , x

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Integration by Parts 1

A Level Further A



Part A Integrate $(s + 1)e^{-s/\alpha}$

Find $\int_0^\alpha (s + 1)e^{-s/\alpha} ds$.

The following symbols may be useful: α , e

Part B Integrate $x \sin x$

Find $\int_0^{\pi/2} x \sin x dx$.



Integration by Parts 2

A Level Further A



Part A Integrate $z^2 \cos z$

Find $\int z^2 \cos z \, dz$.

The following symbols may be useful: k , z

Part B Integrate $3t^2 \ln t$

Find $\int_1^2 3t^2 \ln t \, dt$.

The following symbols may be useful: $\ln()$, t



Physics. *You work it out.*

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Integration by Parts 3

A Level Further A



Find $\int \frac{\ln x}{x^2} dx$.

The following symbols may be useful: k , x

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