

Calculus II

Integrals of the form $\int \ln(mx) dx$

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Integration by parts: $\int u dv = uv - \int v du.$

Example

$$\int \ln x dx =$$

Integration by parts: $\int u dv = uv - \int v du.$

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$$\int \ln x dx = (\ln x)x - \int x d(\ln x) \quad \left| \text{integrate by parts} \right.$$

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 \end{aligned}$$

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 &= x \ln x - x + C .
 \end{aligned}$$