

Re: integration problem

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On 16 Lis, 14:51, David W. Cantrell <DWCantr...@xxxxxxxxxx> wrote:

mira <mirek.h...@xxxxxxxxxx> wrote:

Hello,

Integrate[$x^{(2n+1)/(1+x^2)}$, {x,0,1}], n...integer

It can be given in closed form in terms of the digamma function:

$(\text{digamma}((n+2)/2) - \text{digamma}((n+1)/2))/4$

For information about the digamma function, see
<<http://functions.wolfram.com/GammaBetaErf/PolyGamma/>>, for example.

In case it would be of interest:

For large n, the integral is approximately $1/(4n+2)$.

David

Thank you

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