

Answer on Question #50924 – Math – Integral Calculus

Problem

Find $\int e^{13} dx$

Remark. There is error in formatting. I suppose that we need to find $\int e^{13} dx$ or $\int_1^3 e dx$ or $\int_1^3 e^x dx$. In all cases tables of integrals involving powers or exponential function are used. Besides, the second and the third cases require Newton-Leibnitz formula.

Solution

First case

e^{13} is constant, so $\int e^{13} dx = e^{13}x + C$, where C is an arbitrary real constant.

Second case

e is constant, so $\int_1^3 e dx = ex|_1^3 = e(3 - 1) = 2e$.

Third case

$$\int_1^3 e^x dx = e^x|_1^3 = e^3 - e$$