

Integrating Exponential Functions

p. 386 - 392 (5.5)

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$$1. \int e^x dx = e^x + C$$

$$2. \int e^u du = e^u + C \text{ (BE CAREFUL, you have to do u-subst.)}$$

Integrate:

$$1. \int e^{(3x+1)} dx$$

$$2. \int 5(x(e))^{-(x^2)} dx$$

$$**3. \int \frac{e^{(\tan x)}}{\cos^2 x} dx$$

** (FR) 4. The acceleration of a particle moving along a straight line is given by $a = 10e^{2t}$.

a) Write an expression for the velocity v , in terms of time t , if $v = 5$ when $t = 0$.