

6.2a Integration by Substitution

A change of variables can turn an unfamiliar integral into one that we can evaluate. (The differential matters.)

$$\int f(x)dx = \int g(u)du$$

$$\int \sin(x)e^{\cos(x)}$$

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$$\int 5 \cos 5x \, dx$$

$$\int 2x(x^2 + 1)^4 \, dx$$

Nov 27-9:19 AM

$$\int x^2 \sqrt{5+2x^3} dx$$

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$$\int \cot(7x) dx$$

$$\int \tan(5x) dx$$

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$$\int \frac{dx}{\cos^2 2x}$$

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$$\int \cot^2(3x) dx$$

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$$\int \cos^3 x \, dx$$

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Definite Integrals:

$$\int_0^{\frac{\pi}{3}} \tan x \sec^2(x) \, dx$$

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$$\int_0^1 \frac{x}{x^2 - 4} dx$$

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