

Example 1:

Before today: (We could only work prblms. substitution**Today:** We are going to use the

that the derivative of the inside was constant. Method for solving

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

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Example 2:

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

Example 3:

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

Example 4:

$$\int \sqrt{2x - 1} dx$$

Example 5:

A. $\int \sin^2 x \cos x dx$ B. $\int \sin^2(3x) \cos(3x) dx$

Your Turn ☺

1. $\int (3x - 1)^4 dx$

3. $\int (2x + 1)(x^2 + x) dx$

2. $\int 3x^2 \sqrt{x^3 - 2} dx$

4. $\int \frac{-4x}{(1-2x^2)^2} dx$

5. $\int x(x^2 + 1)^3 dx$

6. $\int \sqrt{5x - 4} dx$

What happens when you are missing not just a number? But a variable.....

Example 6:

$$\int \frac{x}{\sqrt{2x-1}} dx$$

Example 7:

$$\int x\sqrt{x+2} dx$$

Example 8:

$$\int x^2\sqrt{1-x} dx$$

Example 9:

$$\int x\sqrt{2x+1} dx$$