

Calculus 7 2 Trigonometric Integrals

Lesson 326 | Calculus BC | Trigonometric integrals

<https://www.youtube.com/watch?v=gmluKRzXIUo>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01 Find an antiderivative of $\sin(6 \cdot x) \cdot \cos(6 \cdot x)^5$.

02 Find an antiderivative of $\sin(6 \cdot x) \cdot \cos(6 \cdot x)^2$.

03 Find an antiderivative of $\sin(5 \cdot x) \cdot \cos(5 \cdot x)^5$.

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Name: _____ Date: _____ Show your reasoning.

04 Find an antiderivative of $\sin(2 \cdot x) \cdot \cos(2 \cdot x)^4$.

05 Find an antiderivative of $\sin(2 \cdot x) \cdot \cos(2 \cdot x)^2$.

06 Find an antiderivative of $\sin(5 \cdot x) \cdot \cos(5 \cdot x)^2$.

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01 Find an antiderivative of $\sin(6 \cdot x) \cdot \cos(6 \cdot x)^5$.

Substitute $u = \cos(6x)$, $du = -6\sin(6x)dx$. An antiderivative is $-\cos(6 \cdot x)^6/36 + C$. Differentiate to check.

02 Find an antiderivative of $\sin(6 \cdot x) \cdot \cos(6 \cdot x)^2$.

Substitute $u = \cos(6x)$, $du = -6\sin(6x)dx$. An antiderivative is $-\cos(6 \cdot x)^3/18 + C$. Differentiate to check.

03 Find an antiderivative of $\sin(5 \cdot x) \cdot \cos(5 \cdot x)^5$.

Substitute $u = \cos(5x)$, $du = -5\sin(5x)dx$. An antiderivative is $-\cos(5 \cdot x)^6/30 + C$. Differentiate to check.

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04

Find an antiderivative of $\sin(2 \cdot x) \cdot \cos(2 \cdot x)^4$.

Substitute $u = \cos(2x)$, $du = -2\sin(2x)dx$. An antiderivative is $-\cos(2 \cdot x)^{5/10} + C$. Differentiate to check.

05

Find an antiderivative of $\sin(2 \cdot x) \cdot \cos(2 \cdot x)^2$.

Substitute $u = \cos(2x)$, $du = -2\sin(2x)dx$. An antiderivative is $-\cos(2 \cdot x)^{3/6} + C$. Differentiate to check.

06

Find an antiderivative of $\sin(5 \cdot x) \cdot \cos(5 \cdot x)^2$.

Substitute $u = \cos(5x)$, $du = -5\sin(5x)dx$. An antiderivative is $-\cos(5 \cdot x)^{3/15} + C$. Differentiate to check.