

Calculus Section 3.6 Derivatives of Logarithmic Functions

Lesson 287 | Calculus AB | Logarithmic differentiation

<https://www.youtube.com/watch?v=QsQEXpGRIi8>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

Differentiate $f(x)=\log(8 \cdot x^2 + 10)$ on the interior of its real domain.

02

Differentiate $f(x)=\log(7 \cdot x^2 + 13)$ on the interior of its real domain.

03

Differentiate $f(x)=\log(13 \cdot x^2 + 4)$ on the interior of its real domain.

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04

Differentiate $f(x)=\log(13 \cdot x^2 + 11)$ on the interior of its real domain.

05

Differentiate $f(x)=\log(2 \cdot x^2 + 14)$ on the interior of its real domain.

06

Differentiate $f(x)=\log(9 \cdot x^2 + 4)$ on the interior of its real domain.

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01

Differentiate $f(x)=\log(8 \cdot x^2 + 10)$ on the interior of its real domain.

For $\ln(u)$, use u'/u . $f'(x)=8 \cdot x/(4 \cdot x^2 + 5)$.

02

Differentiate $f(x)=\log(7 \cdot x^2 + 13)$ on the interior of its real domain.

For $\ln(u)$, use u'/u . $f'(x)=14 \cdot x/(7 \cdot x^2 + 13)$.

03

Differentiate $f(x)=\log(13 \cdot x^2 + 4)$ on the interior of its real domain.

For $\ln(u)$, use u'/u . $f'(x)=26 \cdot x/(13 \cdot x^2 + 4)$.

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04

Differentiate $f(x)=\log(13 \cdot x^2 + 11)$ on the interior of its real domain.

For $\ln(u)$, use u'/u . $f'(x)=26 \cdot x/(13 \cdot x^2 + 11)$.

05

Differentiate $f(x)=\log(2 \cdot x^2 + 14)$ on the interior of its real domain.

For $\ln(u)$, use u'/u . $f'(x)=2 \cdot x/(x^2 + 7)$.

06

Differentiate $f(x)=\log(9 \cdot x^2 + 4)$ on the interior of its real domain.

For $\ln(u)$, use u'/u . $f'(x)=18 \cdot x/(9 \cdot x^2 + 4)$.