

Algebra II Honors Chapter 6 Notes Part III Properties of Logarithms and Change of Base ...

Lesson 115 | Algebra II | Logarithms and their properties

<https://www.youtube.com/watch?v=5h5RsKGFBFE>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

Graph $y = \log_6(x - (7)) + 9$. Give domain, vertical asymptote, and two exact points.

02

For positive x and y , expand $\log_7(12x^{13}/y^3)$.

03

For positive x and y , expand $\log_2(10x^6/y^{12})$.

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04

Graph $y = \log_7(x - (3)) + 11$. Give domain, vertical asymptote, and two exact points.

05

For positive x and y , expand $\log_2(2x^{14}/y^{10})$.

06

For positive x and y , expand $\log_2(13x^2/y^{12})$.

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01

Graph $y = \log_6(x - 7) + 9$. Give domain, vertical asymptote, and two exact points.

Argument must be positive: $x > 7$. Asymptote $x = 7$. Since $\log_6(1)=0$ and $\log_6(6)=1$, points are (8, 9) and (13, 10).

02

For positive x and y , expand $\log_7(12x^{13}/y^3)$.

Use product, quotient, and power rules: $\log_7(12) + 13\log_7(x) - 3\log_7(y)$.

03

For positive x and y , expand $\log_2(10x^6/y^{12})$.

Use product, quotient, and power rules: $\log_2(10) + 6\log_2(x) - 12\log_2(y)$.

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04

Graph $y = \log_7(x - (3)) + 11$. Give domain, vertical asymptote, and two exact points.

Argument must be positive: $x > 3$. Asymptote $x = 3$. Since $\log_7(1)=0$ and $\log_7(7)=1$, points are $(4, 11)$ and $(10, 12)$.

05

For positive x and y , expand $\log_2(2x^{14}/y^{10})$.

Use product, quotient, and power rules: $\log_2(2) + 14\log_2(x) - 10\log_2(y)$.

06

For positive x and y , expand $\log_2(13x^2/y^{12})$.

Use product, quotient, and power rules: $\log_2(13) + 2\log_2(x) - 12\log_2(y)$.