

The Secret of Getting an A on the Pre Cal Midterm

Lesson 181 | Precalculus | Functions, composition and piecewise rules • Rational expressions and graphs • Logarithms and their properties

<https://www.youtube.com/watch?v=VuddK77pbOo>

Related review: exact coverage needs teacher confirmation.

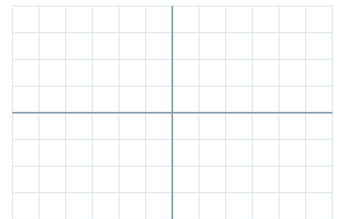
Name: _____ Date: _____ Show your reasoning.

01

Let $f(x) = 6x + 14$ for $x < -1$, and $f(x) = x^2 + 8$ for $x \geq -1$. Find $f(-2)$, $f(-1)$, and $f(0)$.

02

Analyze and sketch $f(x) = 9/(x - 8) + 8$. Give domain, asymptotes, intercepts, and two points.

**03**

For positive x and y , expand $\log_3(9x^{14}/y^6)$.

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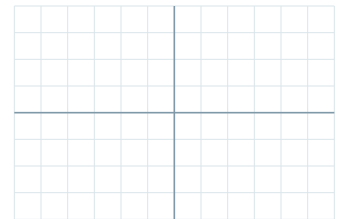
Name: _____ Date: _____ Show your reasoning.

04

Let $f(x) = 7x + 8$ for $x < -6$, and $f(x) = x^2 + 2$ for $x \geq -6$. Find $f(-7)$, $f(-6)$, and $f(-5)$.

05

Analyze and sketch $f(x) = 8/(x - 7) + 7$. Give domain, asymptotes, intercepts, and two points.

**06**

For positive x and y , expand $\log_7(10x^2/y^5)$.

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01

Let $f(x) = 6x + 14$ for $x < -1$, and $f(x) = x^2 + 8$ for $x \geq -1$. Find $f(-2)$, $f(-1)$, and $f(0)$.

Choose the rule from the input interval: $f(-2) = 2$; $f(-1) = 9$; $f(0) = 8$. Equality uses the second rule.

02

Analyze and sketch $f(x) = 9/(x - 8) + 8$. Give domain, asymptotes, intercepts, and two points.

Domain $x \neq 8$; vertical asymptote $x=8$; horizontal asymptote $y=8$. Zero: $x = -73/8$. y-intercept $73/8$. Points $(-7, 17)$ and $(-9, -1)$.

03

For positive x and y , expand $\log_3(9x^{14}/y^6)$.

Use product, quotient, and power rules: $\log_3(9) + 14\log_3(x) - 6\log_3(y)$.

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04

Let $f(x) = 7x + 8$ for $x < -6$, and $f(x) = x^2 + 2$ for $x \geq -6$. Find $f(-7)$, $f(-6)$, and $f(-5)$.

Choose the rule from the input interval: $f(-7) = -41$; $f(-6) = 38$; $f(-5) = 27$. Equality uses the second rule.

05

Analyze and sketch $f(x) = 8/(x - 7) + 7$. Give domain, asymptotes, intercepts, and two points.

Domain $x \neq 7$; vertical asymptote $x=7$; horizontal asymptote $y=7$. Zero: $x = -57/7$. y-intercept $57/7$. Points $(-6, 15)$ and $(-8, -1)$.

06

For positive x and y , expand $\log_7(10x^2/y^5)$.

Use product, quotient, and power rules: $\log_7(10) + 2\log_7(x) - 5\log_7(y)$.