

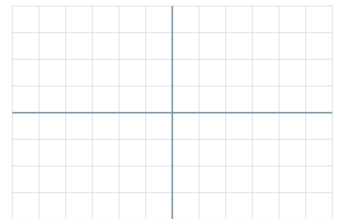
Mission Impossible To Become Possible (Algebra II Sample Final Review)

Lesson 108 | Algebra II | Quadratic equations and graphs • Rational expressions and graphs • Logarithms and their properties

<https://www.youtube.com/watch?v=8a7clPrBjyI>

Related review: exact coverage needs teacher confirmation.

Name: _____ Date: _____ Show your reasoning.

01Solve $x^2 - 9x - 52 = 0$ by factoring and verify the roots.**02**Analyze and sketch $f(x) = 11/(x - -9) + 8$. Give domain, asymptotes, intercepts, and two points.**03**For positive x and y , expand $\log_3(7x^9/y^6)$.

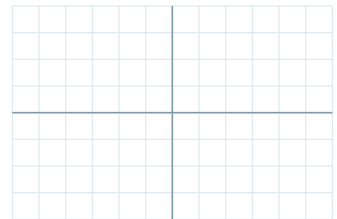
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Name: _____ Date: _____ Show your reasoning.

04Solve $x^2 + 2x - 63 = 0$ by factoring and verify the roots.**05**Analyze and sketch $f(x) = 12/(x - 2) + 6$. Give domain, asymptotes, intercepts, and two points.**06**For positive x and y , expand $\log_7(9x^{11}/y^8)$.

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01

Solve $x^2 - 9x - 52 = 0$ by factoring and verify the roots.

Factor: $(x - 13)(x + 4) = 0$. Roots are 13 and -4. Each root makes one factor zero.

02

Analyze and sketch $f(x) = 11/(x - -9) + 8$. Give domain, asymptotes, intercepts, and two points.

Domain $x \neq -9$; vertical asymptote $x = -9$; horizontal asymptote $y = 8$. Zero: $x = -83/8$. y-intercept $83/9$. Points $(-8, 19)$ and $(-10, -3)$.

03

For positive x and y , expand $\log_3(7x^9/y^6)$.

Use product, quotient, and power rules: $\log_3(7) + 9\log_3(x) - 6\log_3(y)$.

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04

Solve $x^2 + 2x - 63 = 0$ by factoring and verify the roots.

Factor: $(x - 7)(x + 9) = 0$. Roots are 7 and -9. Each root makes one factor zero.

05

Analyze and sketch $f(x) = 12/(x - 2) + 6$. Give domain, asymptotes, intercepts, and two points.

Domain $x \neq 2$; vertical asymptote $x=2$; horizontal asymptote $y=6$. Zero: $x = 0$. y-intercept 0. Points (3, 18) and (1, -6).

06

For positive x and y , expand $\log_7(9x^{11}/y^8)$.

Use product, quotient, and power rules: $\log_7(9) + 11\log_7(x) - 8\log_7(y)$.