

Completely factor  $2x^4 - 14x^2 - 36$



Jun 6-10:58 AM

Add and simplify

$$\frac{5x}{3x+9} + \frac{3}{x^2-9}$$



Jun 6-12:31 PM

Simplify as much as possible

$$\frac{(81m)^3}{(81m)^{7/2}}$$



Jun 6-12:53 PM

Subtract and simplify

$$\frac{3+9x}{9x} - \frac{x^2+9x}{3x^2}$$



Jun 6-12:30 PM

Determine the inverse of

$$y = \frac{1}{3}x^8$$



Jun 6-12:34 PM

Multiply and simplify

$$\frac{x^2 - 10x + 21}{x^2 - x - 12} \cdot \frac{x^2 - 2x - 8}{x^2 - 13x + 42}$$



Jun 6-12:30 PM

Condense:  $4\ln 2 - 2\ln 8$



Jun 6-12:16 PM

Rewrite using a common base. Then solve.

$$5^x \cdot \left(\frac{1}{125}\right)^{4x} = 25^{3x+2}$$



Jun 6-12:43 PM

Convert to logarithmic form  
 $3^4 = 81$



Jun 6-11:13 AM

Factor  $6x^2 - 11x - 35$



Jun 6-11:07 AM

Simplify  
 $(81s^2t^{12}q^{10})^{3/4}$



Jun 7-8:33 AM

Evaluate

$(216^{1/3})(100^{3/2})$



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Solve for v:  $\log v = 3$



Jun 6-11:15 AM

Simplify  
 $\sqrt[5]{32m^{20}n^{21}p}$



Jun 7-8:33 AM

Describe in words how to evaluate  $64^{4/3}$



Jun 6-11:08 AM

Expand

$$\log\left(\frac{x^5y^7}{z^3}\right)$$



Jun 6-12:50 PM

Simplify  
 $\sqrt[4]{81}^3$



Jun 7-8:39 AM

Solve for  $x$   
 $(27x^3)^{1/3} = 30$



Jun 7-8:38 AM

Determine the inverse of

$$f(x) = \frac{x-8}{3}$$



Jun 6-12:32 PM

What are the restrictions on the function

$$\frac{x^2 - 9x + 20}{x^2 - 5x - 14}$$



Jun 6-12:23 PM

Solve for m:  $\log_m 49 = 2$



Jun 6-11:15 AM

Solve the equation.

$$\sqrt{2x-3} - 2 = 10$$



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What is the  
extraneous solution  
to  $\sqrt{x-5} + 2 = 4$ ?



Jun 7-8:33 AM

Simplify

$$\sqrt[3]{729^{32} r^{60} s}$$



Jun 7-8:33 AM

Condense  $\log_3 8 + \log_3 5$



Jun 6-10:58 AM

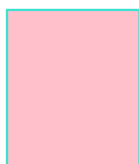
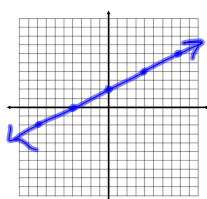
Divide and simplify

$$\frac{4x^2 - 12x}{x^2 + 9x + 14} \div \frac{3x^2 - 9x}{x^2 - 4}$$



Jun 6-12:31 PM

What are 3 points that could be used to sketch a graph of the inverse of the blue function below?



Jun 6-12:40 PM

Solve the equation.

$$\frac{\sqrt[3]{(3x+6)^5}}{-2} = -16$$



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If two functions are inverses, their graphs are reflections of each other over which line?



Jun 6-12:32 PM

Evaluate

$$49^{-3/2}$$



Jun 6-12:54 PM

Solve the equation.  
How do the restrictions affect the solution?

$$\frac{x^2+2x-8}{x^3+3x^2} + \frac{5}{x^3+3x^2} = \frac{x+6}{x^2}$$



Jun 6-12:46 PM

Simplify

$$\frac{x^2-4x-45}{x^2-3x-40}$$



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Verify that  $f(x)$  and  $g(x)$  are inverses

$$f(x) = -\frac{1}{3}x - 2$$
$$g(x) = -3x - 6$$



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Determine the value of  $x$

$$\log_9 8 = x \log_9 2$$



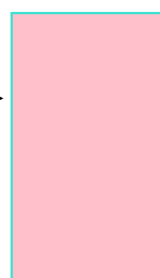
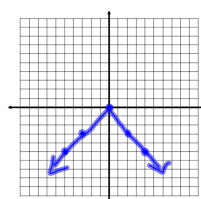
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Divide using synthetic division  $4x^3 - 2x^2 + 3x - 5 \div (x - 3)$



Jun 6-12:35 PM

What are 3 points that could be used to sketch a graph of the inverse of the blue function below?



Jun 6-12:40 PM

Determine the value of x  
 $\log 125 = x \log 5$



Jun 6-11:15 AM

Determine the value of x  
 $\log_4 64 = x \log_4 4$



Jun 6-11:15 AM

$A = P \left( 1 + \frac{r}{n} \right)^{nt}$   
 A is the total accumulated amount,  
 P is the initial (principal) amount, r is the rate as a decimal,  
 n is the number of times interest is compounded per year, and t is the number of years.

You place \$1000 in a savings account with an annual interest rate of 1.5%. The amount of the investment in 7 years if compounding occurs monthly is...

$$A = P \left( 1 + \frac{r}{n} \right)^{n \cdot t}$$



Jun 6-11:12 AM

Condense

$$2(\log_3 M + \log_3 N) - 4 \log_3 P$$



Jun 6-12:50 PM

A family purchased a shore house for \$459,750 in 2003. The value of the home appreciated 1.4% each year.

Use the exponential growth formula  $A = A_0(1 + r)^t$ .

$$A = A_0(1 + r)^t$$

A. How much was the house worth in 2014?

B. Approximately when will the home be worth \$999,000? Round to the nearest year.



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Describe the end behavior for  $-x^3 + 3x^2 - 4$



Jun 6-12:35 PM

Determine all roots and multiplicities of

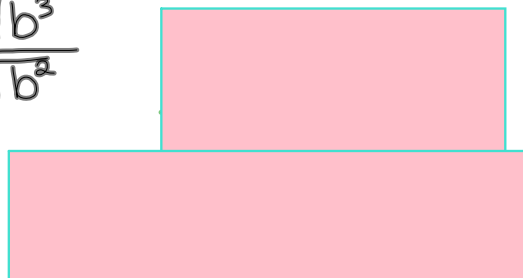
$$f(x) = x^3(x - 2)^2(2x + 3)$$



Jun 6-11:02 AM

Rewrite as  $b^x$  where  $x$  is a fraction

$$\frac{\sqrt[5]{b^3}}{\sqrt[3]{b^2}}$$



Jun 7-8:38 AM

If  $x - 5$  is a factor of  $P(x)$ , what is  $P(5)$ , and why?



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Solve  $\log_{10} = x$



Jun 6-12:36 PM

Solve

$$\sqrt[4]{(3x-1)^3} - 2 = 25$$



Jun 6-12:52 PM

Classify the polynomial by degree and number of terms

$$5x^3 - 2x^2 - 9$$



Jun 6-11:02 AM

Evaluate  $\log_7 1$



Jun 6-11:14 AM

Solve  $\log_3 27 = 3$



Jun 6-12:37 PM

Determine the inverse of

$$f(x) = \sqrt{x+3}$$



Jun 6-12:31 PM

Evaluate

$$32^{3/5}$$



Jun 6-12:54 PM

Determine which is a factor of  $x^3 + 7x^2 + 7x - 15$

A.  $x - 3$

B.  $x + 3$

C.  $x - 5$



Jun 6-11:03 AM

Rewrite using a common base. Then solve.

$$\frac{16^{8x+1}}{2^{3x}} = 8^4$$



Jun 6-12:43 PM

Determine the value of  $x$

$$\log_5 1000 = x \log_5 10$$



Jun 6-11:15 AM

Simplify

$$\sqrt[3]{125}^2$$



Jun 7-8:39 AM

Write the factored form of  
a polynomial whose roots are  
-3, 2 (M.2), and  $\frac{1}{2}$



Jun 6-11:06 AM

Solve  $7238^{2x+5} = 7238^{3x-10}$



Jun 6-11:10 AM

If  $f(x) = 3x - 19$ , what is  $(f \circ f^{-1})(23)$ ?



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How many solutions does the polynomial have?  
 $f(x) = -8x^4 + 2x - 9x^7 + 1$



Jun 6-11:01 AM

If a quintic polynomial with real coefficients has roots 3, -4,  $\frac{1}{2}$ , and  $9i$  as a root, what else must be a root, and why?



Jun 6-12:41 PM

Write in logarithmic form

$$F^G = D$$



Jun 6-12:22 PM

Rewrite with only positive integer exponents

$$\frac{q^4}{q(6r^2)^2}$$



Jun 6-12:52 PM

Write in exponential form:

$$\log_m n$$



Jun 6-12:21 PM



Factor  $15x^3 - 3x^2 + 25x - 5$



Jun 6-11:07 AM

Write the factored form of the polynomial with roots  $2i$ ,  $3$ (M.2),  $1/2$ , and  $0$ (M.4)



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What type(s) of factoring could be used to factor

$$2x^3 + 54$$



Jun 6-11:00 AM

Determine the inverse of the relation:

$$\{(0, -1), (-2, -3), (4, 5)\}$$



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Condense  $\log_3 85 - \log_3 17$



Jun 6-10:58 AM

$$A = Pe^{rt}$$

A is the total accumulated amount, P is the initial/principal amount, r is the rate as a decimal, and t is the number of years

Determine the annual interest rate if Brian deposited \$7000 into an account and after one year had a total investment of \$7310.28. Round to the nearest whole percent.

Jun 6-12:19 PM

Solve  $\log(3 + 2x) = 2$

State the possible rational roots of

$$2x^3 - 3x^2 + 8x - 6 = 0$$

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Jun 6-11:04 AM

Determine the remainder:

$$3x^3 - 2x + 4 \text{ divided by } (x - 3)$$

Jun 6-11:05 AM

Simplify

$$(64x^{12}y^{10}z^3)^{2/3}$$

Jun 7-8:38 AM

Solve  $8 = x^{3/2}$

Write a natural log expression that is equivalent to the value of x.

$$17e^{5x} = 51$$

Jun 6-11:09 AM

Jun 6-12:18 PM

An item that cost \$5500 in 1993 depreciated at a rate of 20% per year. How much was the item worth after 9 years?

Use the exponential decay formula  $A = A_0(1 - r)^t$ .

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Evaluate  $\log_8(1/64)$

Jun 6-11:14 AM

Solve  $\log_3 x + \log_3(x + 1) = 2$

Jun 6-11:13 AM

Write the standard form of the polynomial whose roots are -1, -2 and 3

Jun 6-11:08 AM