

GEBRA

New Way of Learning Math



Trigonometric integrals

$$\frac{\log_{10}(5x-3)}{\log_{10}(4x+5)} = 3$$

$$\log_{10}(x-10) - \log_{10}(x-7)$$

logarithm4.gex

Solve for x in the following

$$\frac{4 \cdot x^2 - 3 \cdot x}{x-4} = 4 \cdot x$$

$$\frac{14-x}{x-5} = \frac{2}{x-5} + 6$$

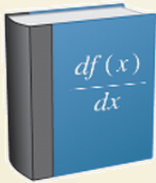
linear equations3.gex

Exponential Equations

$$2^{-x} = 16$$

$$2x+3 + 3 \cdot 2x-2 = 280$$

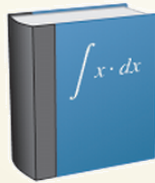
Exponential Equations



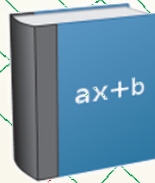
Derivation



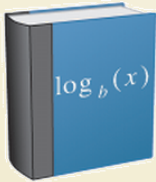
Exponential



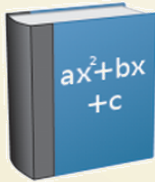
Integral



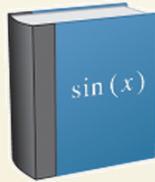
Linear Equations



Logarithm



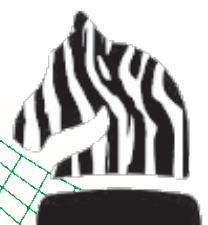
Quadratic Equations



Trigonometry



Tutorial



$$\sin(x-y)$$

$$(\log_2 x)^2 - 4 \cdot \log_4 x - 3 = 0$$

Steps:

1. Rewriting the equation in terms of $\log_2 x$ gives

$$\log_2 x^2 - 4 \cdot \frac{1}{2} \cdot \log_2 x = 3$$

2. Substituting x_1 for $\log_2 x$ gives

$$-2 \cdot x_1 + x_1^2 = 3$$

3. Using the quadratic formula, the solutions are

$$x_1 = 3 \text{ and } x_1 = -1$$

4. Applying substitution $x_1 = \log_2 x$ gives

$$\log_2 x = 3$$

or

$$\log_2 x = -1$$

5. From here, the solutions are as follows

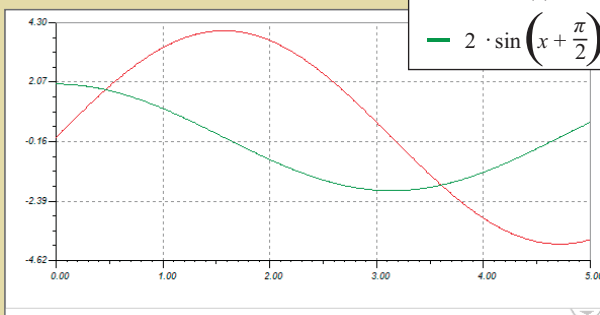
$$\log_2 x = 3$$

$$x = 8$$

and

$$\log_2 x = -1$$

$$x = \frac{1}{2}$$



sin(π - x)

Hints

-x + π	sin x	sin(π - (π - x))
cos(π/2 - (π - x))	sin π · cos x - sin x · cos π	sin(-x + π)



GEBRA

New Way of Learning Math

Gebra is a software tool that provides a new way of learning mathematics by helping students in problem solving. It not only solves problems – taken from any source – automatically, but can also help students at any phase of their individual work. Gebra also includes mathematical function graphing, plotting 2D & 3D functions, and comes with over 100 assignments from different areas of math that teachers and students can use immediately



$$(\log_2 x)^2 - 4 \cdot \log_2 x + 4 = 0$$

□ <<< rule e.g. '+2')

□ <<< next line

Hints

$$\log_b x$$

$$\log_b 2$$

$$(\log_2 x - 2) \cdot (\log_2 x - 2)$$

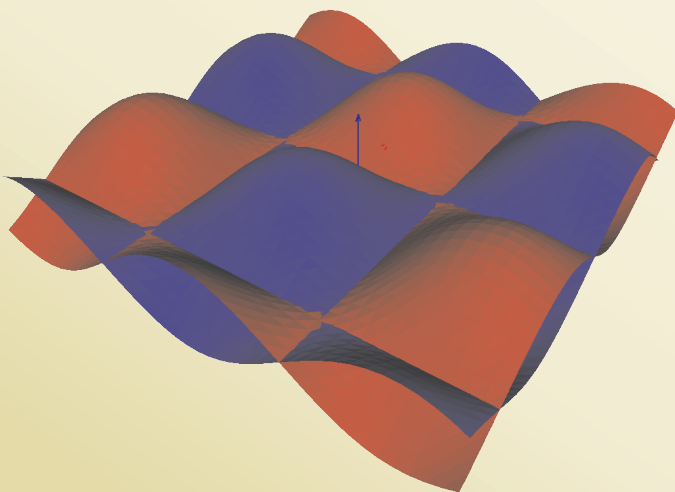
$$\log_2 x^4$$

$$-4 \cdot \log_2 x + \log_2 x^2 = -4$$



$$\sin x \cdot \cos y$$

$$\cos\left(\frac{\pi}{2} - x\right) \cdot \sin\left(y - \frac{\pi}{2}\right)$$



You can display the solution step-by-step and continue on your own, while being checked by the program. Gebra can always take over one or more steps if needed. Gebra can also provide the complete solution to any problem, taken from any source, including textbooks, problem books or school assignments.

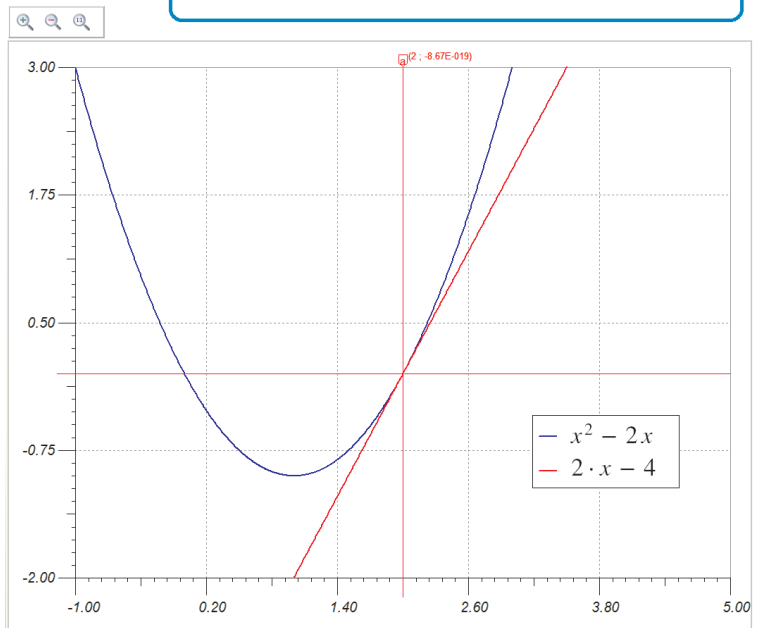
Gebra also includes 2D and 3D mathematical function graphing. You can simply drag and drop your function into a 2D or 3D drawing tool and it will be plotted automatically.

Gebra covers a wide range of math topics starting from simplifications up to logarithmic and trigonometric equations and calculus.

First, select the topic to which your problem belongs, then pick up a rule and apply it to your equation or just use and apply the formula you know. Gebra will check whether or not your solution is correct.

First derivative to find slope of tangent line.

- $y = a \cdot x + b$
- $(x^2 - 2x)' = 2 \cdot x - 2 = 2 \cdot 2 - 2 = 2 = a$
- $2 \cdot 2 - b = 0$
- $b = 4$



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