

Differential Equation Solver

An Online Calculator for Solving Ordinary Differential Equations

**Enter ODE
to Solve**

$$y'' - 2 \cdot y + 1 = \sin(x)$$

**Initial
Conditions**

$$y(0) = 1, y'(0) = 0$$

Solve

$$y(x) = e^{\sqrt{2}x} \left(\frac{1}{4} + \frac{1}{12} \sqrt{2} \right) + e^{-\sqrt{2}x} \left(\frac{1}{4} - \frac{1}{12} \sqrt{2} \right) - \frac{1}{3} \sin(x) + \frac{1}{2}$$

Plot Range

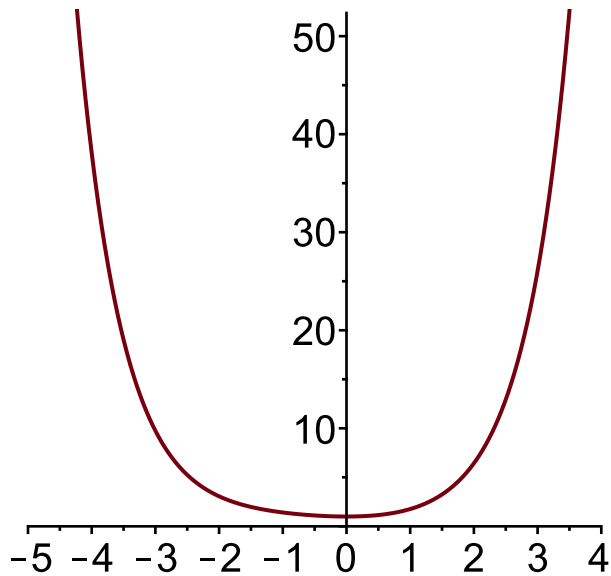
-5

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5

Plot

Clear



How to Enter Math

Method 1 - Typing:

To enter Math simply type in your expression, using the keyboard shortcuts listed below.

To enter $\frac{\sin(x)}{x^2}$, type in `sin(x)/x^2`.

To enter $e^{\frac{1}{x}}$, type in `exp(1/x)`.

To enter \sqrt{x} , type in `sqrt(x)`.

Here are some handy keyboard shortcuts:

Exponent	<code>^</code> (caret)
Multiplication	<code>*</code>
Fraction	<code>/</code>
Command Completion	Ctrl+Space (Windows) Command+Space (Mac) Ctrl+Shift+Space (Linux, UNIX)

π	Type p-i and then use Command Completion
∞	Type i-n-f and then Command Completion OR type infinity
Square Root	Right Click (Windows) and Choose from Menu Ctrl+Click (Mac) and Choose from Menu
Return Cursor to Baseline (from fractions and exponents)	Use the right arrow (\rightarrow) on the keyboard OR Ctrl+/ (Windows) Command+/ (Mac)

Method 2 - Palettes (Web Browser Only):

You can enter Math by right-clicking (**Ctrl+Click**, Mac) on the entry box and a Math palette will come up with common functions and notations.

Examples (click triangle to expand)

To enter $\frac{\sin(x)}{x^2}$, follow these steps:

- Right-click and select $\frac{a}{b}$ from the first drop-down menu
- Highlight a , right-click and select $\sin(a)$ from the third drop-down menu
- Change both a and b to x
- Highlight the x in the denominator, right-click and select a^b from the first drop-down menu
- Change the a to 2

To enter $e^{\frac{1}{x}}$, follow these steps:

- Right-click and select e^x from the fourth drop-down menu
- Highlight x , right-click and select $\frac{a}{b}$ from the first drop-down menu
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- Change the a to a 1 and the b to an x

To enter \sqrt{x} , follow these steps:

- Right-click and select \sqrt{a} from the first drop-down menu
- Change the a to an x

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