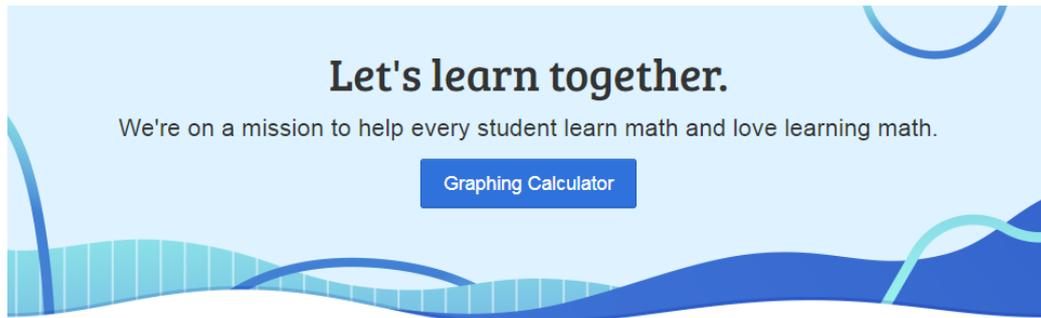


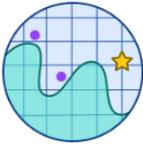
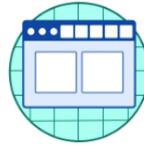
ToolKit2: DESMOS User Manual

Desmos Studio is a Public Benefit Corporation with a goal of helping everyone learn math, love math, and grow with math.

<https://www.desmos.com/?lang=en>



Using Desmos Classroom?

 <p>Students Join your classmates!</p> <p>Code <input type="text"/> <input type="button" value="Join"/></p> <p>Go to Student Homepage</p>	 <p>Teachers Interactive and creative activities for your math class.</p> <p><input type="button" value="Browse Activities"/></p>
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<p>Math Tools ▾</p> <ul style="list-style-type: none">  Graphing Calculator  Scientific Calculator  Four Function Calculator  Test Practice  Matrix Calculator  Geometry Tool 	<p>Classroom ▾</p> <ul style="list-style-type: none"> For Teachers For Students Desmos Curriculum
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Desmos Classroom invites, celebrates, and develops student brilliance through free digital classroom activities, thoughtfully designed by teachers for teachers. Those activities are guided by our pedagogical philosophy and help students to explore concepts deeply, collaborate with their peers on problem-solving, and apply knowledge creatively as mathematicians.

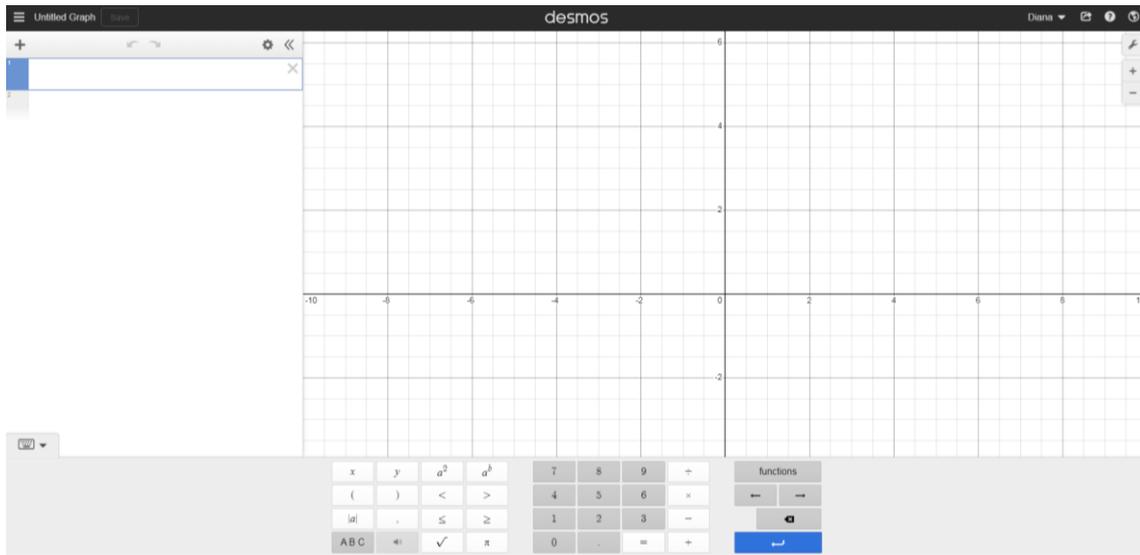
DESMOS MATH TOOLS



Graphing Calculator

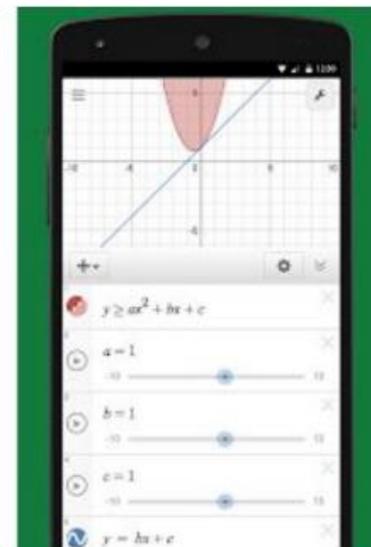
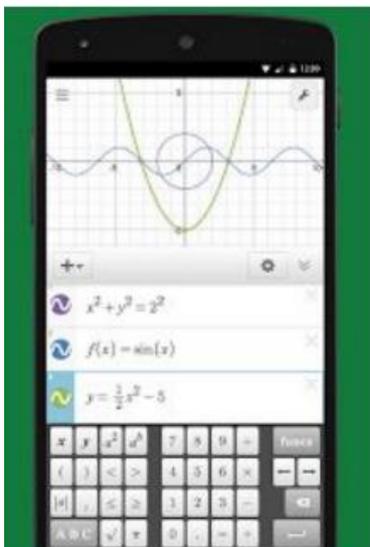
<https://www.desmos.com/calculator?lang=en>

The Graphing Calculator can instantly plot any equation, from lines and parabolas to derivatives and Fourier series. The sliders make it easy to show function transformations. They are intuitive and beautiful mathematics. And best of all: it's completely free and you can use it at your computer or your mobile phone.



Functions at the Graphing Calculator					
TRIG FUNCTIONS			STATISTICS		
sin	cos	tan	mean	median	min
csc	sec	cot	max	quartile	quartile
INVERSE TRIG FUNCTIONS			stdev	stdevp	var
\sin^{-1}	\cos^{-1}	\tan^{-1}	mad	cov	covp
\csc^{-1}	\sec^{-1}	\cot^{-1}	corr	spearman	stats
			length	total	

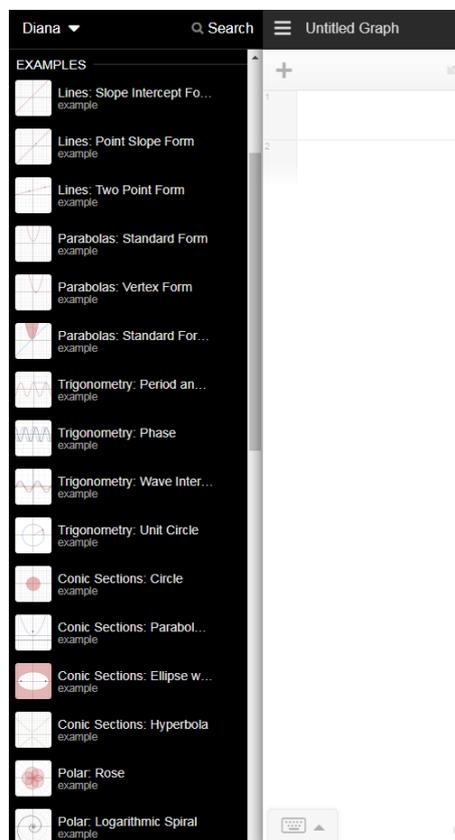
<p>LIST OPERATIONS</p> <p>join sort shuffle</p> <p>unique for</p> <p>VISUALIZATIONS ?</p> <p>histogram dotplot boxplot</p>	<p>DISTRIBUTIONS ?</p> <p>normaldist tdist poissondist</p> <p>binomialdist uniformdist pdf</p> <p>cdf inversecdf random</p> <p>STATISTICAL TESTS</p> <p>ttest tscore ittest</p>
<p>CALCULUS</p> <p>exp ln log</p> <p>\log_a $\frac{d}{dx}$ f'</p> <p>\int Σ Π</p> <p>HYPERBOLIC TRIG FUNCTIONS</p> <p>sinh cosh tanh</p> <p>csch sech coth</p>	<p>GEOMETRY</p> <p>polygon distance midpoint</p> <p>CUSTOM COLORS ?</p> <p>rgb hsv</p>
<p>NUMBER THEORY</p> <p>lcm gcd mod</p> <p>ceil floor round</p> <p>sign $\sqrt[n]{\quad}$ nPr</p> <p>nCr</p>	



Features:

- Graphing: Trace polar, cartesian or parametric graphs. There is no limit to the number of expressions you can graph at once - and it is not even necessary to enter the expressions in the form $y=f(x)$.
- Slider Controls: Adjust values interactively to build the intuition, or animate any parameter to visualize its effect on the graph.
- Tables: The given values and those of graphing, or create a table of independent-dependent values for any function.
- Statistics: Find lines of best fit, paraboles and more.
- Zoom: Adjust the scale of the axes independently, or at the same time with the pinch of two fingers, or edit the size of the window manually to get the perfect window.
- Points of interest: Touch a curve to show your maximum, minimum and intersection points. Touch the gray points of interest to see their coordinates. Hold and drag along a curve to see how the coordinates change under the finger.
- Scientific calculator: Just write any equation you want to solve and Desmos will show you the answer. It can handle square roots, logarithms, absolute value, and more.
- Inequalities: Graph Cartesian and polar inequalities.
- Offline: Internet access is not required.

There are available examples of a lot of types of graphs, when you open the following menu:





Scientific Calculator

<https://www.desmos.com/scientific?lang=en>



Four Function Calculator

<https://www.desmos.com/fourfunction?lang=en>

These two Calculators can instantly obtain the result of different types of operations.

$258^8 = 1.96316882 \times 10^{19}$	$259 + 59714 - 369 = 59604$
$\sqrt[7]{258413} = 5.931817288$	$259 \times 25 \div 69 = 93.84058$
$\sin^{-1}(0.35) = 20.48731511$	$25 \times \sqrt{259} = 402.3369$
$nPr(8,2) = 56$	
$e^{12} = 162754.7914$	



Matrix Calculator

<https://www.desmos.com/matrix?lang=en>

The Matrix Calculator permits us operate with matrices very easily.

$$A = \begin{bmatrix} 2 & -3 \\ 5 & 4 \\ 1 & -2 \end{bmatrix}$$

$$B = \begin{bmatrix} 3 \\ -1 \end{bmatrix}$$

$$A \cdot B = \begin{bmatrix} 9 \\ 11 \\ 5 \end{bmatrix}$$

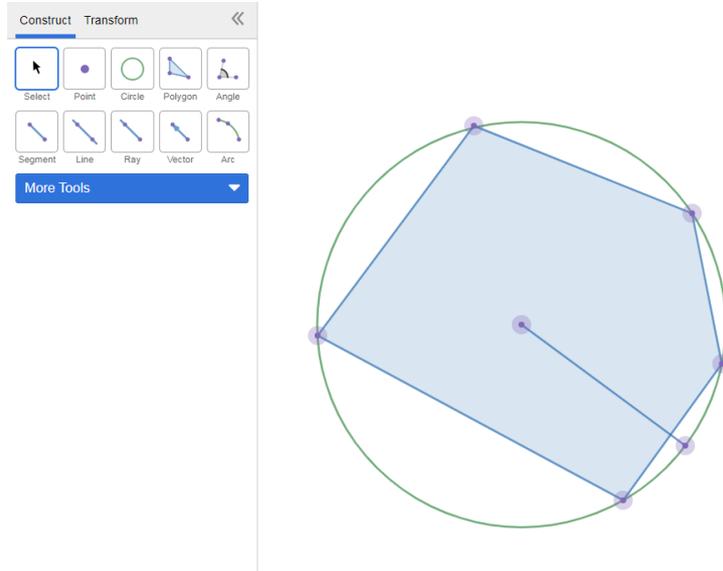
$$A^T = \begin{bmatrix} 2 & 5 & 1 \\ -3 & 4 & -2 \end{bmatrix}$$

The interface includes a 'New Matrix' button and a keypad with matrix-specific functions like A^2 , A^{-1} , A^T , A^n , ref , det , and trace .

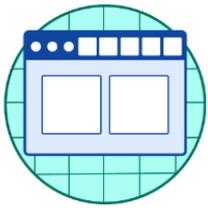


<https://www.desmos.com/geometry?lang=en>

The geometry Tool permits us to represent different geometric objects and interact with them.



DESMOS CLASSROOM (FOR TEACHERS)

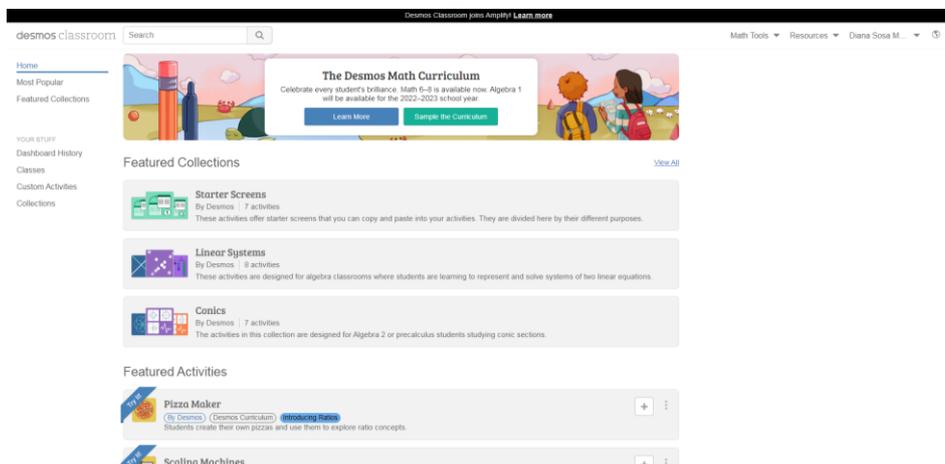


Teachers

Interactive and creative activities for your math class.

Browse Activities

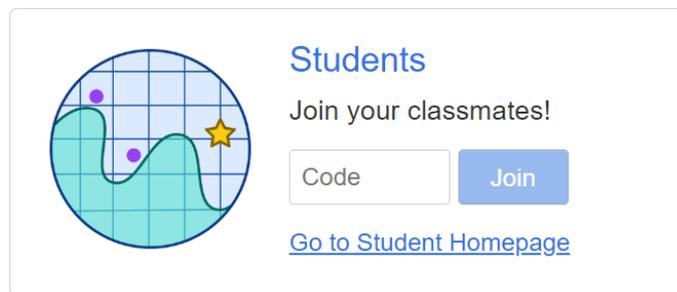
- It is necessary to be registered to access and create activities and resources.



- There are several available activities that each teacher can use.
- Each activity has some screens with different questions, tasks,... which can be hidden and leave available only some to be solve for the students.
- To create an activity: Go Custom Activities -> Create a New Activity
- To create a class: Go Classes -> Add New Class. Desmos gives a code to that class which must be used by student to access to the corresponding class with activities to be solved.
- The teacher can see all the progress made by his/her students.

DESMOS CLASSROOM (FOR STUDENTS)

- It is not necessary to be registered.
- You only need to type the code classroom, to go into the activities and follow your teacher instructions.



CLASSROOM: DESMOS CURRICULUM

Brought to you by the team that created the Desmos calculators and activities. Math 6–8 is available now. Algebra 1 will be available for the 2022–2023 school year.

