

Desmos

Let's do this!

Go to www.desmos.com and click “Start Graphing”

You’ll see a blank graph after doing this.

Go ahead and rename your graph anything you’d like by clicking where it says “Untitled Graph” in the top left-hand corner.

You may also want to sign in. If you have a Google account (personal or from the school), click “Sign In” in the top right-hand corner. You can also create an account from scratch by clicking the green button, “Create Account”

Be sure to save your graph periodically, so you do not lose your work

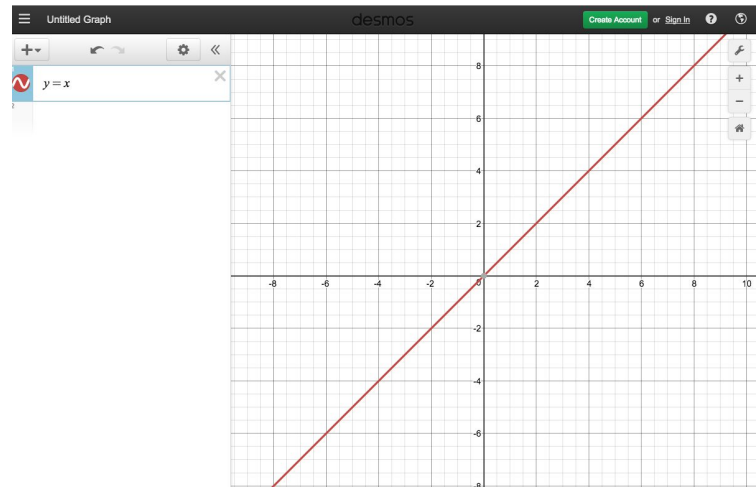
Making a Graph

In slot 1 let's try making your first graph.

Type in the following: $y=x$

You could also type: $f(x)=x$ and that will look the same

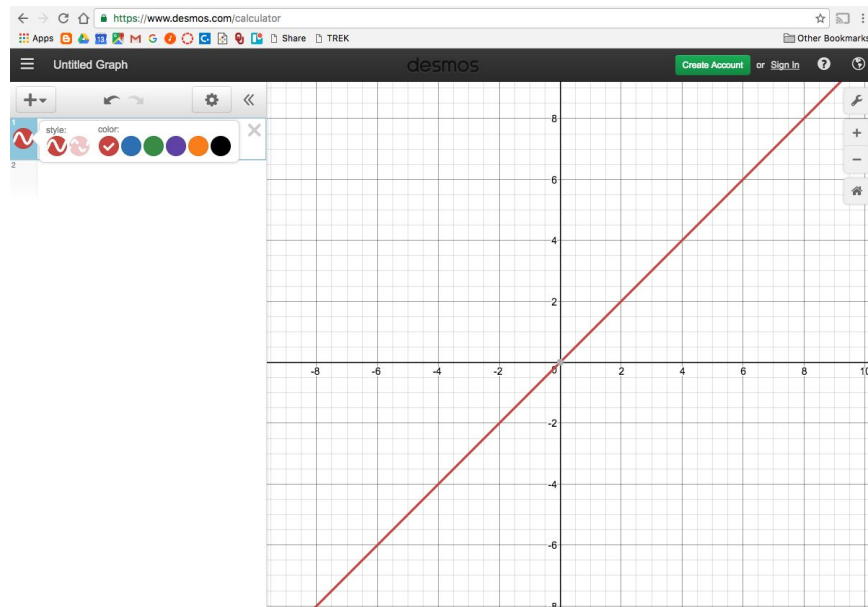
Good work! You can do this!



Mess with your graph

Right now, your graph is a solid color. Click and hold on the “squiggly line” next to the graph you created. This will allow you to change the color or make the graph dashed instead of solid.

Go crazy!

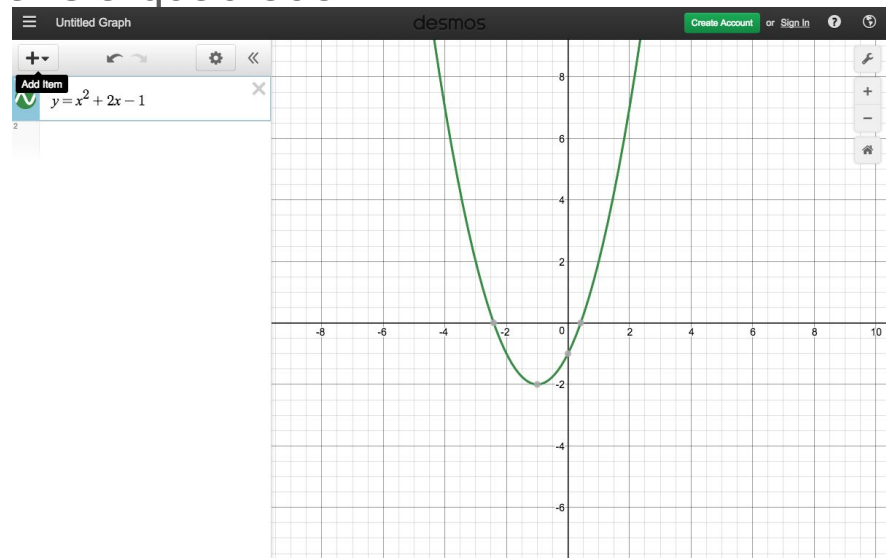


Let's make a more interesting graph

Currently you have a linear, $y=x$, function graphed.

In slot 2, type in $f(x)=x^2 + 2x - 1$. This will make a quadratic.

Try changing the degree of your polynomial
and see how the graph changes



Lets add some sliders

Whatever you have in slot one, delete it!

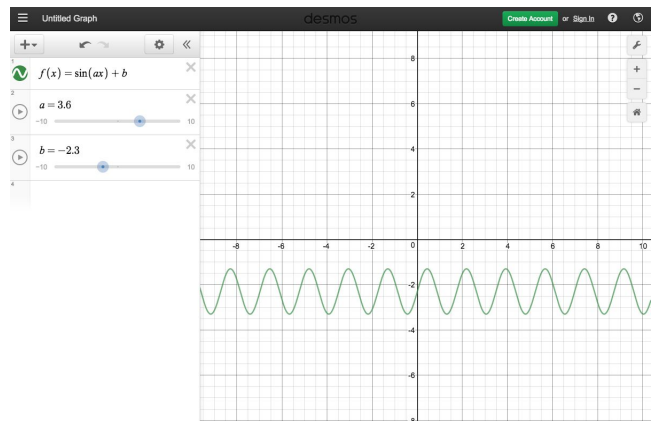
Type in the following: $f(x)=\sin(ax) + b$

Notice how *sin* changes from italics to function form. This is nice.

The screen will now prompt you to “add slider: a, b, all.” Click “all”

Now move the sliders with your mouse or click “play.”

Pretty cool, eh?

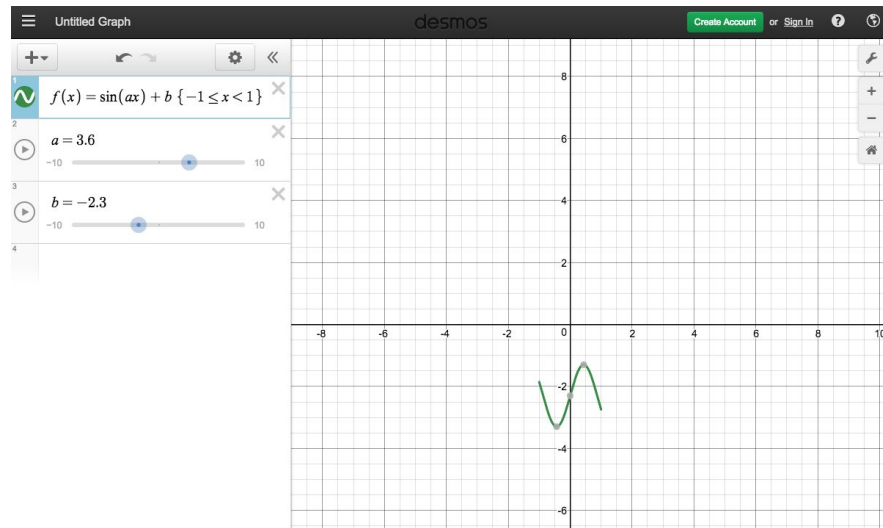


Let's restrict the domain.

In slot 1 you have “ $f(x) = \sin(ax) + b$ ”

Next to “ b ” type in $\{-1 \leq x \leq 1\}$

Notice how the domain is now restricted.



Go Bananas

Try creating some graphs of your own. Maybe even restrict the domain.

Try this one if you are drawing a blank:

$$f(x) = |x^2 - 9| \{ -10 < x < a \}$$

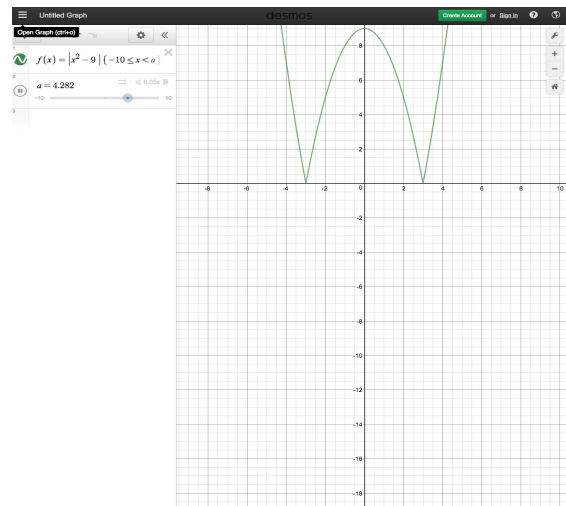
Add slider for “a”

Click the “play” button on the slider slot.

The << and >> arrows slow down the graph.

The other arrows will change how the graph is graphed.

NICE work. You’re nearly a pro now!

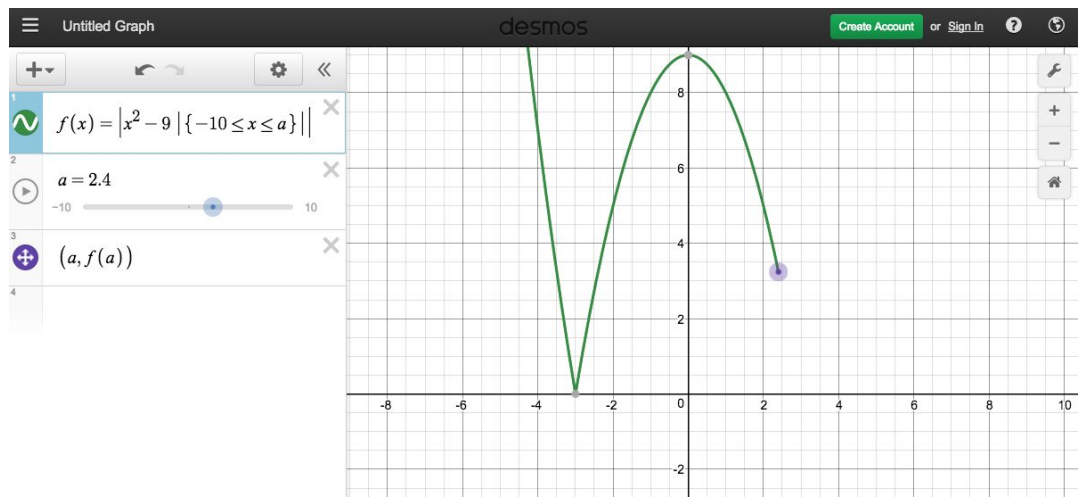


Points

If you want a coordinate point, use parenthesis

Type in slot 3: $(a, f(a))$.

Now there's a point on your graph.



Derivatives

In desmos you have to name things.

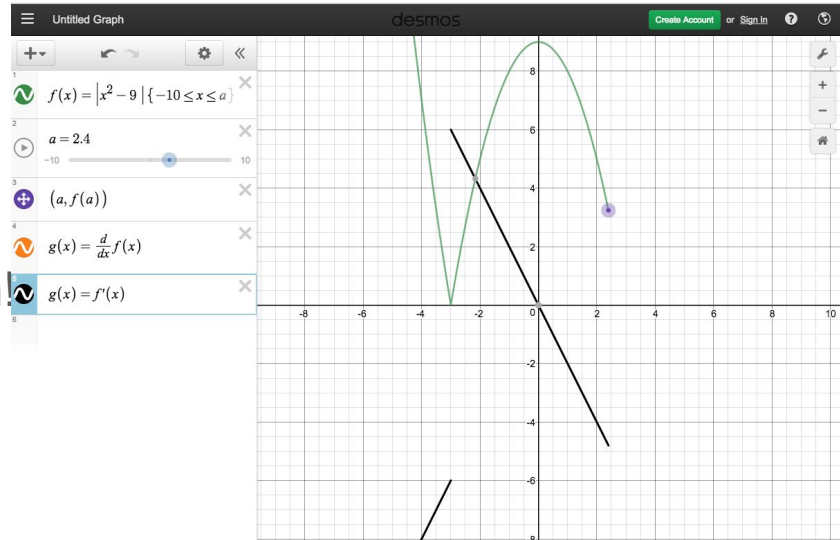
In slot 4 type in the following:

$$g(x) = f'(x)$$

OR

$$g(x) = \frac{d}{dx} f(x)$$

Nice use of prime notation and Leibniz notation!



Try some of your own

Try a few new graphs on your own.

Add sliders (as many as you like)

Restrict the domain

Come up with some wild and crazy functions!

Other tips and tricks

Want some Pi? Just type pi in a slot and it will convert it to the symbol for pi

What about roots? Just type the letters sqrt and it'll convert it to a radical for you.

What about theta? Type in the word theta and, just like that, you'll get the symbol

Rectangular coordinates are boring

It's true. Rectangular coordinates are boring, so change 'em!

Click on the wrench in the top right-hand corner. You'll see two small graphs, one is green and the other is gray. Click on the gray graph and you're desmos graph will convert to a polar coordinate plane.

Clear out the graphs you have and enter a polar graph like, $r = \theta$

See what happens!