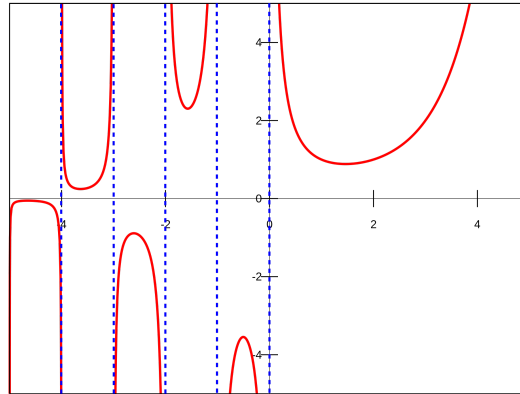


Garc Marneau's Function Encyclopedia

From a to $f(z)$



Based on a series of true stories

Originally written by Garc Marneau
Translated from Canadian to English by Dhrumil and Kevin

"Because you can't spell
functions without fun"

Critical Acclaim for *Garc Marneau's Function Encyclopedia*

"This book is an instant classic,
up there with the likes of *The Odyssey* and
All Quiet on the Western Front.
I feel like *Garc* was the real me all along."
-Marc Garneau

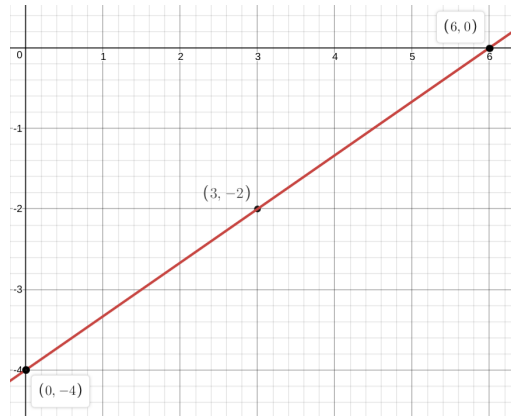
"Graphing Tips with *Garc* really helped me up my game both
inside and outside of math class. I'm not a brick anymore."
- Jor Parachute

"Wait shouldn't it be Marc Garneau?" -R. B. Bonnet

"When *Garc* got into my space,
I didn't hit him with my metre stick. El Gremlin
however, was a different matter."
- Mr. McMaster, facilitator of the BOPS program

Linear

El Gremlin has infected the local farmland with gremlin-crows. Garc needs to divide the farm, but can only construct a straight fence with a slope of $\frac{2}{3}$ and a y-intercept of -4 !



Graphing Tips with Garc

Shift Down by 4

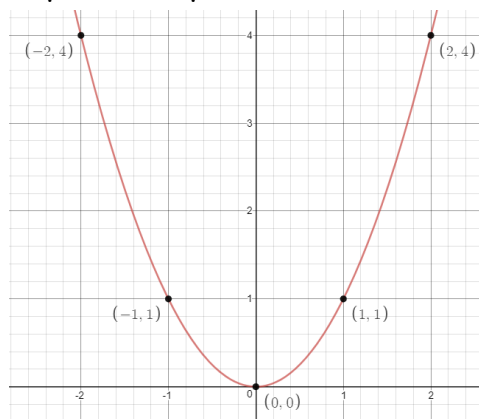
The next point is given by:

Add the numerator of the slope (2) to the point's y value

Add the denominator of the slope (3) to the point's x value

Quadratic

El Gremlin's axe is about to swing down to meet the bourgeoisie. Garc is cheering and plots the path of the axe through space.



Graphing Tips with Garc

Plot (0,0)

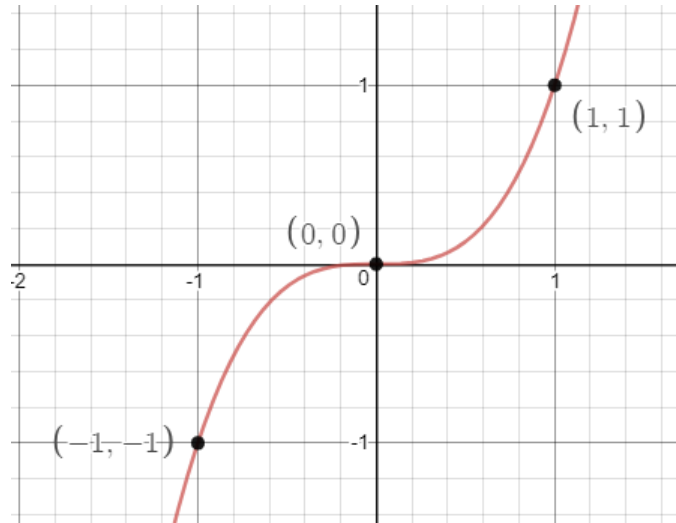
Odds Across:

The vertical difference to the next lattice point is the next odd number

The horizontal difference to the next lattice point is 1

Cubic

El Gremlin becomes El Snake for the day and Garc records his motion:

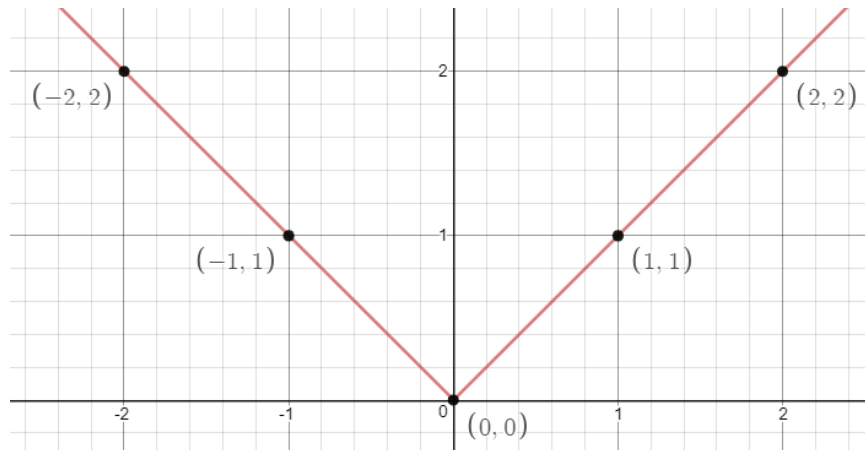


Graphing Tips with Garc

You can draw the gremlin's body when he curls up to shoot forward

Absolute Value

El Gremlin went to YMCA and can't stop dancing! Garc records his motion:

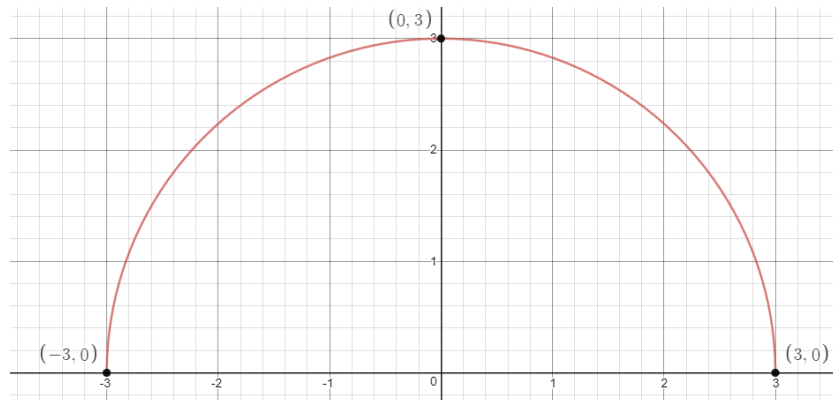


Graphing Tips with Garc

Draw the positive and negative parts of the absolute value only when defined when y is positive

Semi-Circle

El Gremlin recently became an artist and now draws the sun at dawn



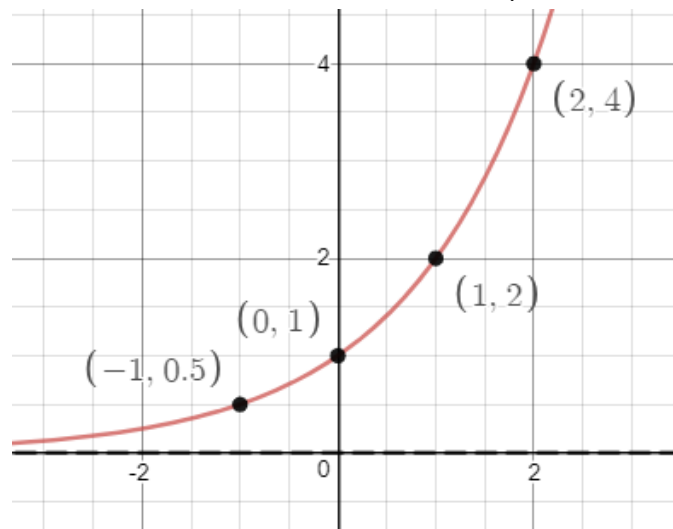
Graphing Tips with Garc

The radius is 3, which allows us to draw 3 lattice points to drag the curve through

Connect the three points with a smooth curve

Exponential

Mrs. Gremlin is trying to convince El Gremlin that he needs to drop those pounds, so she plotted his weight against a graph and asked Garc for help

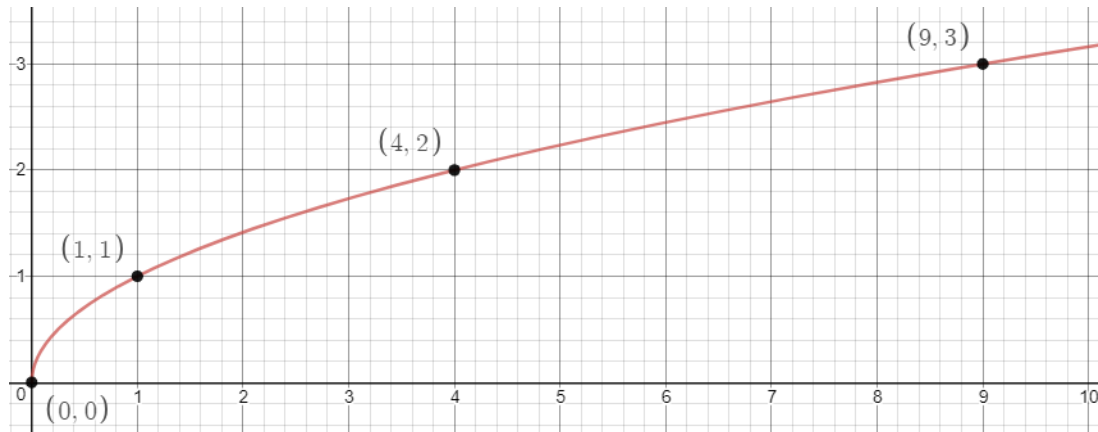


Graphing Tips with Garc

Remember to continue the graph when x is negative, noticing the asymptote at $y=0$
The y value of the next point is given by multiplying the current point's y value by 2

Square Root

El Gremlin pulled out his old typewriter and accidentally pulled on the page, creating this ink streak:



Graphing Tips with Garc

This graph only exists in one direction from its lowest point

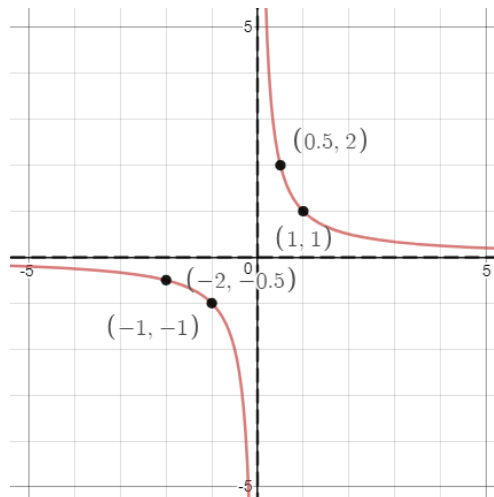
Odds Across:

The horizontal distance to the next lattice point is given by the next odd number

The vertical distance to the next lattice point is 1

Hyperbola

After getting over their differences, El Gremlin and Garc decided to go on Captain Wonderland's famous mirrored roller coaster, and Garc took a quick picture.



Graphing Tips with Garc

The function passes through $(1,1)$

The function approaches its asymptotes at $x = 0$ and $y = 0$

The positive function can be reflected over $y = -x$ to complete the function