

Getting Ready

Open a web browser. Go do to www.desmos.com.
Launch the calculator.

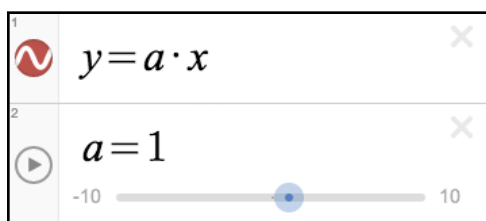
Making Observations

Type this into the expression list:

$$y = a \cdot x$$

Click “add slider.”

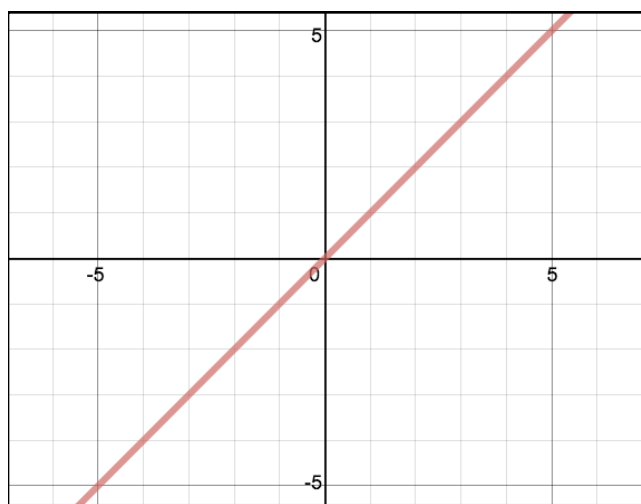
The expression list should look like this:



Drag the slider left and right. Or, click the play button to animate the slider. Make some mental notes (or notes on paper) for what happens to the graph when a is positive, negative, large, small, and zero.

Challenge 1

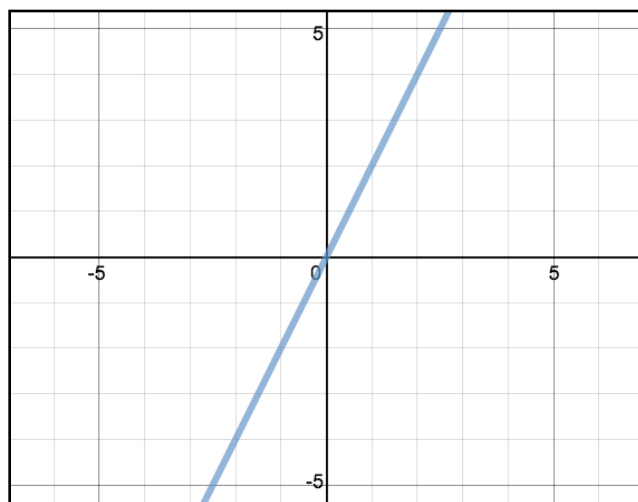
Here’s your first challenge:



If you’re able to make this graph using Desmos, write the equation here.

Challenge 2

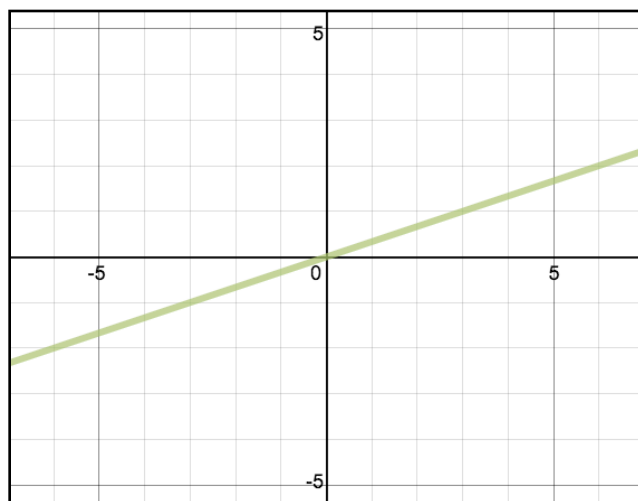
On to the second challenge:



Did you find it? Write your equation here.

Challenge 3

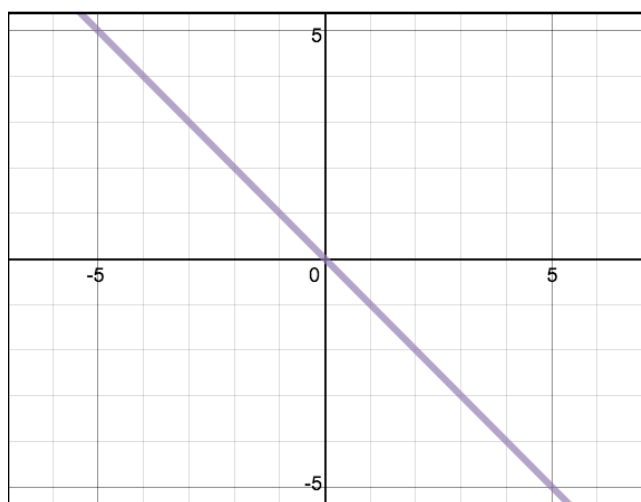
Can you make this graph using Desmos?



Write your equation here.

Challenge 4

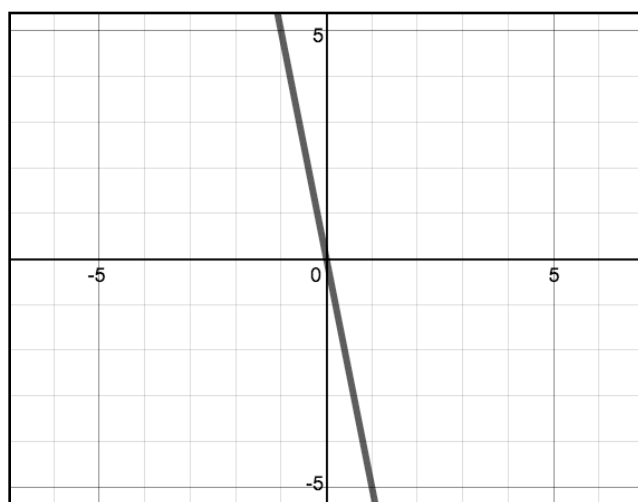
Can you make this graph using Desmos?



Write your equation here.

Challenge 6

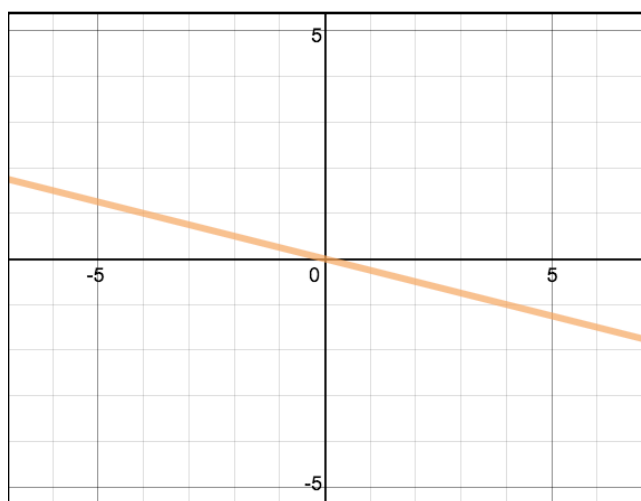
Can you make this graph using Desmos?



Write your equation here.

Challenge 5

Can you make this graph using Desmos?



Write your equation here.

What Have You Noticed?

Write a summary of the things you've noticed over the course of solving this set of challenges.