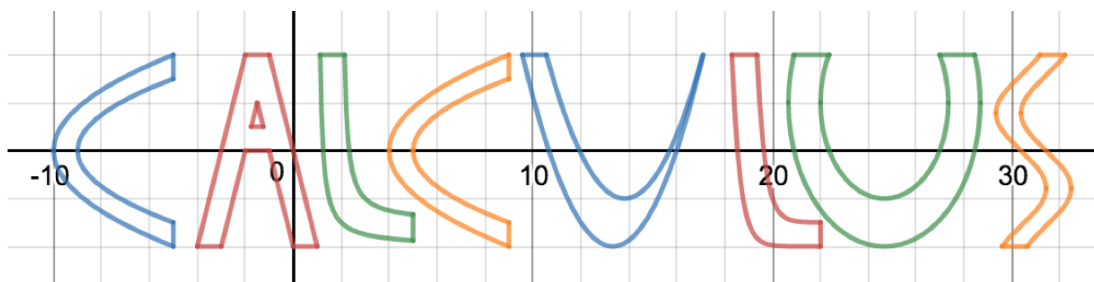


WRITING WITH FUNCTIONS

February 02, 2017

Math 1110

Spring 2017

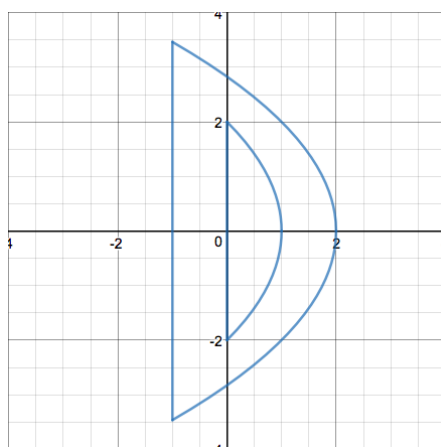


For this project we will divide the class into 8 groups. Each group will be assigned a letter in the word “Calculus” and a type of function. The assignment is to use the desmos online graphing calculator (<https://www.desmos.com/>) to draw that letter in bold like the picture above (it doesn’t have to look exactly the same).

Your group must use your assigned function at least once to draw the letter. You can scale or shift the function as much as you’d like, and you may also use other functions or vertical lines (even though they aren’t actually functions).

Group	Letter	Assigned Function	x-axis interval
1	C	square root	$(-24, -18)$
2	A	linear	$(-18, -12)$
3	L	$\frac{1}{x}$	$(-12, -6)$
4	C	circle or semicircle	$(-6, 0)$
5	U	parabola	$(0, 6)$
6	L	exponential	$(6, 12)$
7	U	trig function	$(12, 18)$
8	S	inverse trig	$(18, 24)$

- (1) Start by drawing your letter with your assigned function so that the letter fits in the range $-3 < x < 3$ and $-4 < y < 4$. You may use piecewise functions which can be entered as in the example below. Below is an example of how I drew the letter “D” (for Desmos).



1	$y = 2\sqrt{-x+2} \{y \leq 4\} \{x \geq -1\}$
2	$y = -2\sqrt{-x+2} \{-4 < y\} \{x \geq -1\}$
3	$y = 2\sqrt{-x+1} \{y < 2\} \{x < 3\}$
4	$y = -2\sqrt{-x+1} \{-2 < y\} \{x < 3\}$
5	$x = 0 \{-2 < y < 2\}$
6	$x = -1 \{-2\sqrt{3} < y < 2\sqrt{3}\}$

- (2) Then shift your graph horizontally into the interval specified in the table above and write down all of the equations your group used. Bring the equations up to me and I’ll graph them all together!