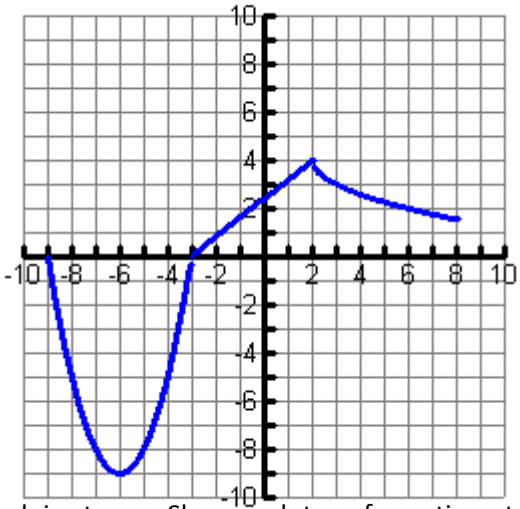
PreCalculus 41

Class Assignment – 2.5 – 2.6

The graph below uses only functions from the library of functions. Assume stretches or compressions of those functions, just translations.

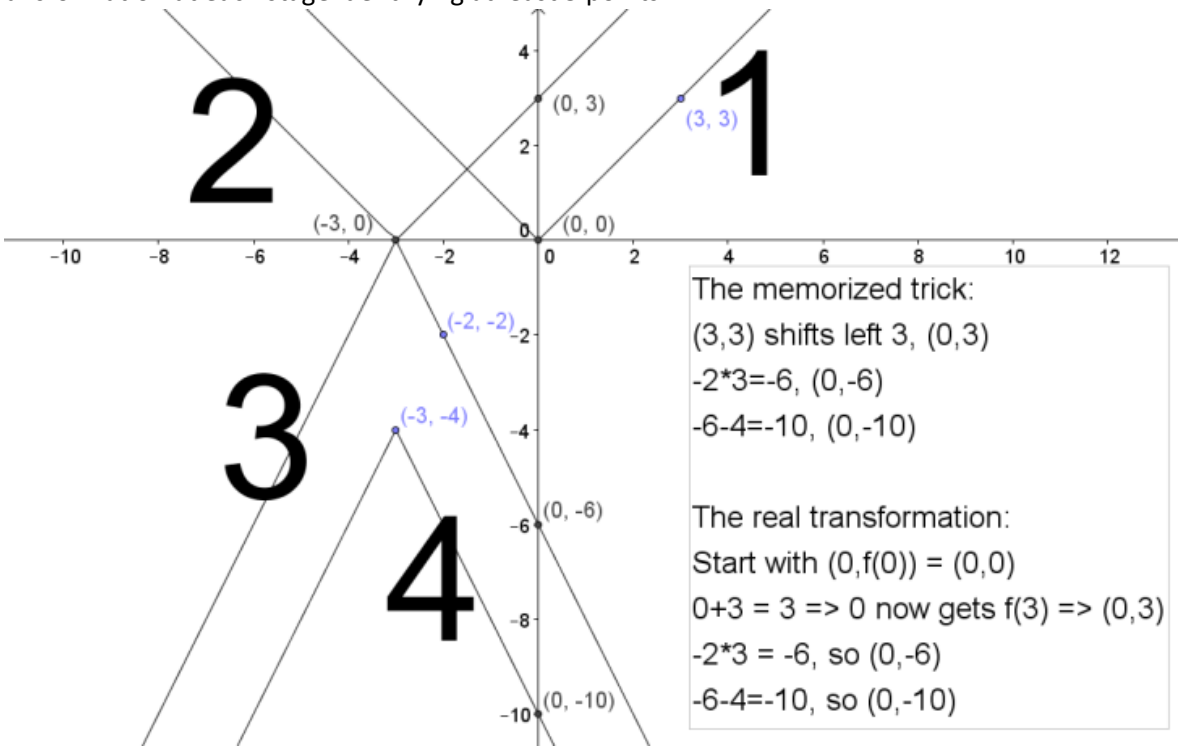
Write a piece-wise function:



$$f(x)=\begin{cases}(x+6)^2-9 & -9\le x<-3\\ \frac{4}{5}x+2\frac{2}{5} & -3\le x<2\\ -\sqrt{x-2}+4 & 2\le x\le 8\end{cases}$$

Graph in stages. Show each transformation at each stage identifying at least 3 points.

$$f(x)=-2|x+3|-4$$



The memorized trick:
(3,3) shifts left 3, (0,3)
-2*3=-6, (0,-6)
-6-4=-10, (0,-10)

The real transformation:
Start with (0,f(0)) = (0,0)
0+3 = 3 => 0 now gets f(3) => (0,3)
-2*3 = -6, so (0,-6)
-6-4=-10, so (0,-10)