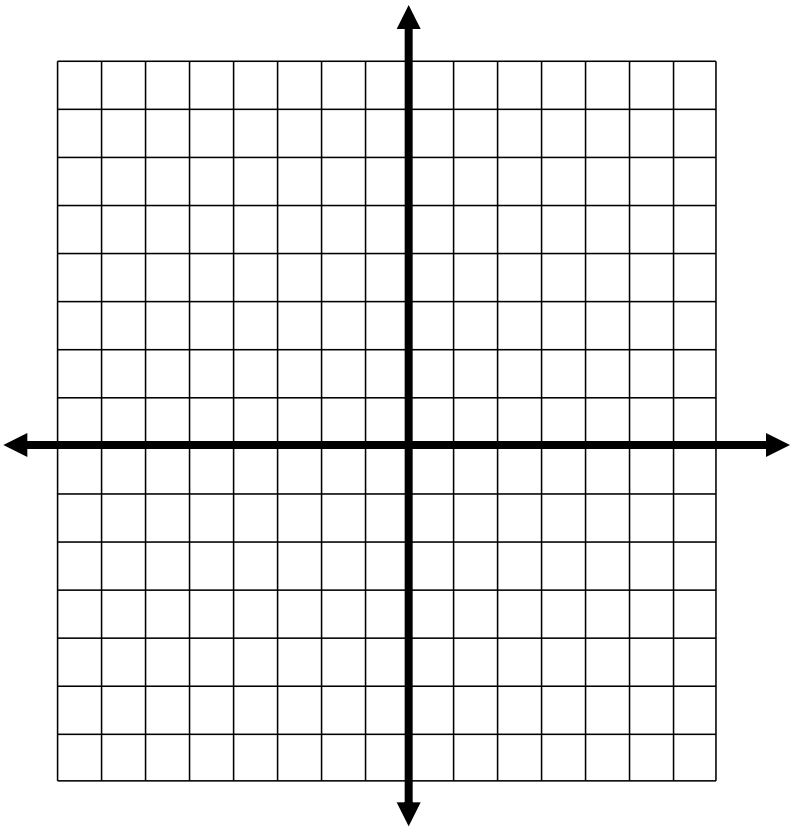
Worksheet Piecewise Functions Name:_____
Algebra 2

Part I. Carefully graph each of the following. Identify whether or not the graph is a function. Then, evaluate the graph at any specified domain value. You may use your calculators to help you graph, but you must sketch it carefully on the grid!

1. $f(x)=\begin{cases} x+5 & x<-2 \\ -2x-1 & x\geq -2 \end{cases}$



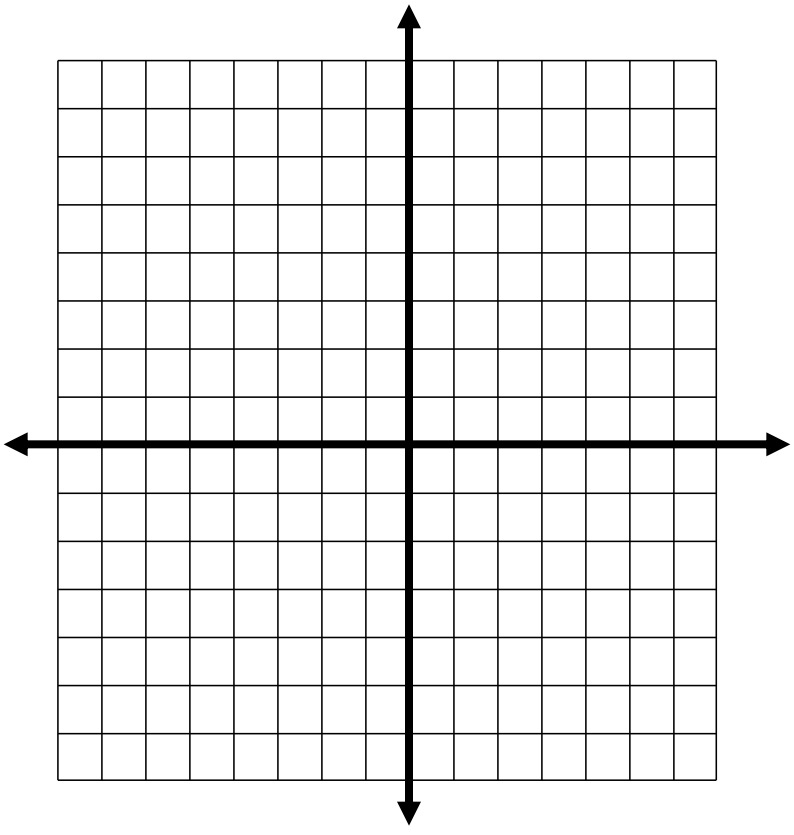
Function? Yes or No

$f(3)=$

$f(-4)=$

$f(-2)=$

2. $f(x)=\begin{cases} 2x+1 & x\geq 1 \\ \frac{x}{2}-3 & x<1 \end{cases}$



Function? Yes or No

$f(-2)=$

$f(6)=$

$f(1)=$

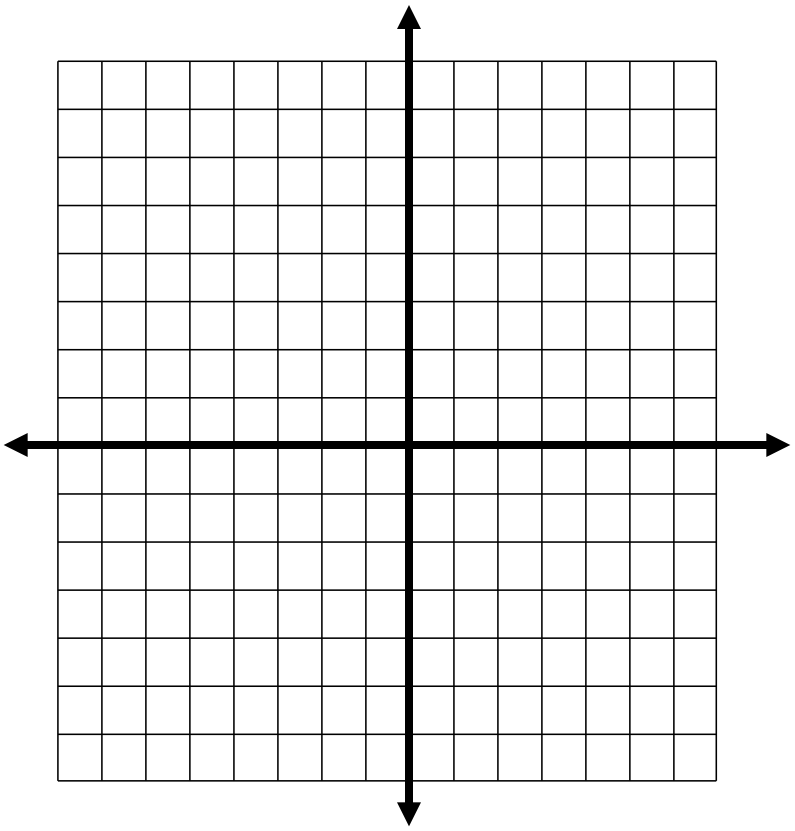
3. $f(x)=\begin{cases}4x-2 & x\geq 2\\ -\frac{x}{3}+4 & x<2\end{cases}$

Function? Yes or No

$f(-4)=$

$f(8)=$

$f(2)=$



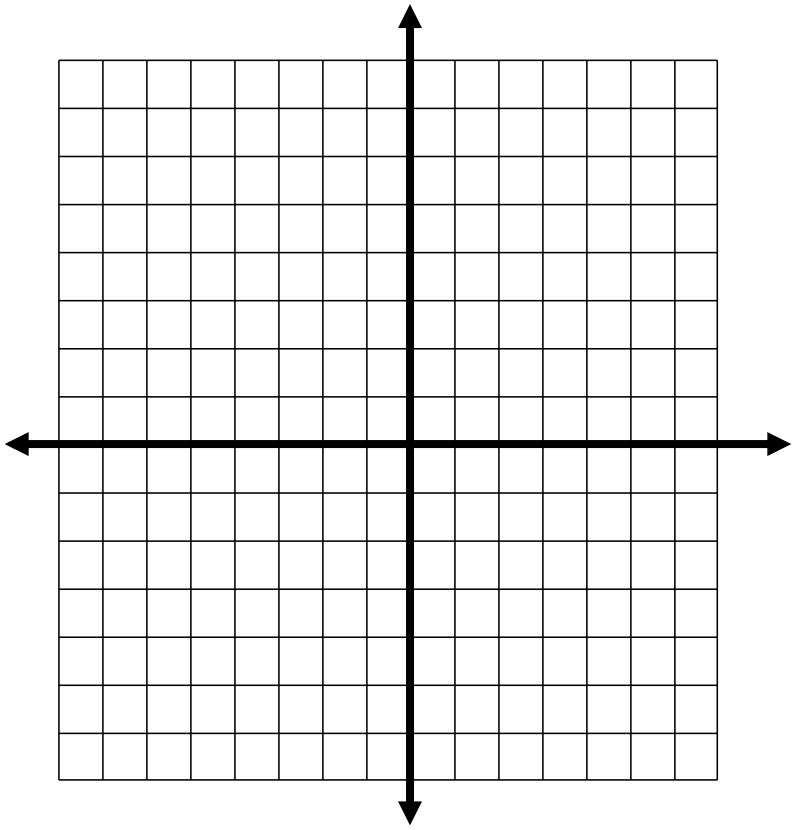
4. $\begin{cases}-x+4 & x\leq 0\\ \frac{2x}{3}-1 & 0<x\leq 5\\ 2 & x>5\end{cases}$

Function? Yes or No

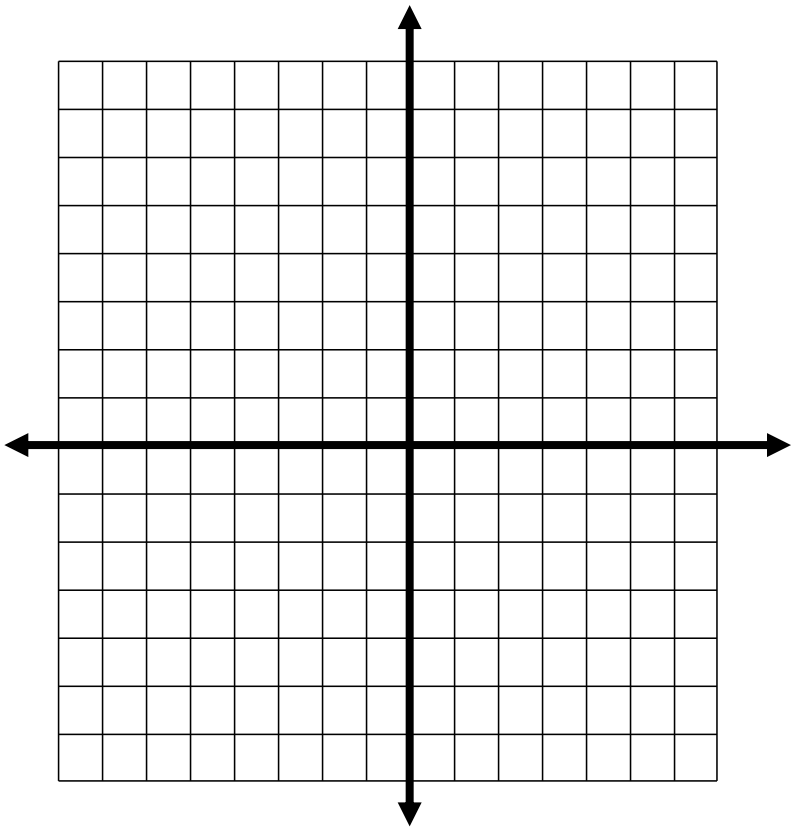
$f(-2)=$

$f(0)=$

$f(5)=$



5. $f(x)=\begin{cases} -x+1 & x\le 0 \\ -\dfrac{4x}{3}-4 & x>0 \end{cases}$



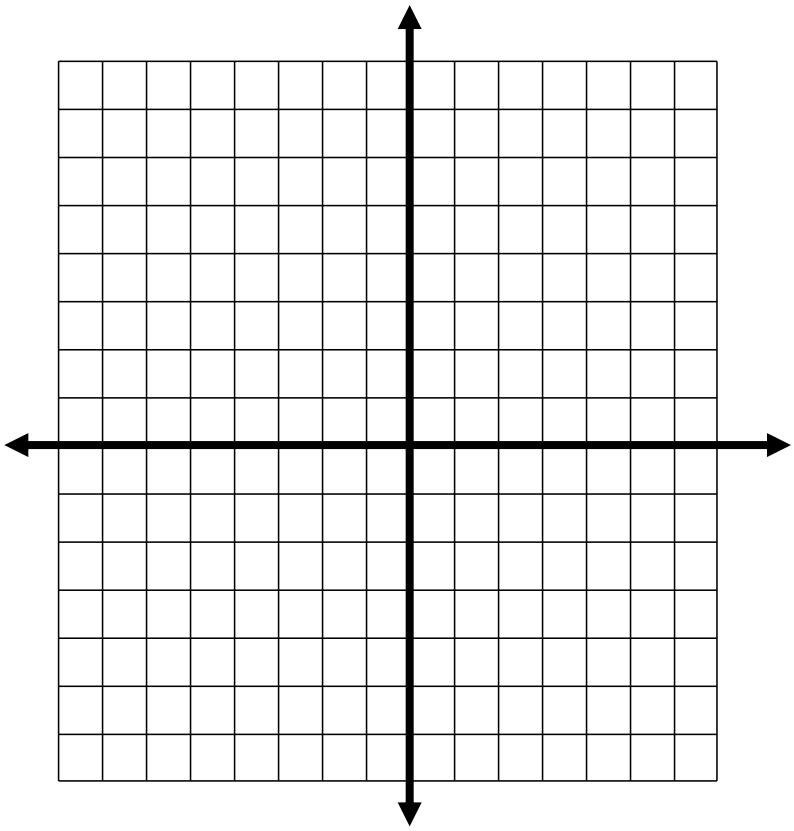
Function? Yes or No

$f(-4)=$

$f(0)=$

$f(3)=$

6. $f(x)=\begin{cases} -3 & x\le 3 \\ 2x-5 & x>3 \end{cases}$



Function? Yes or No

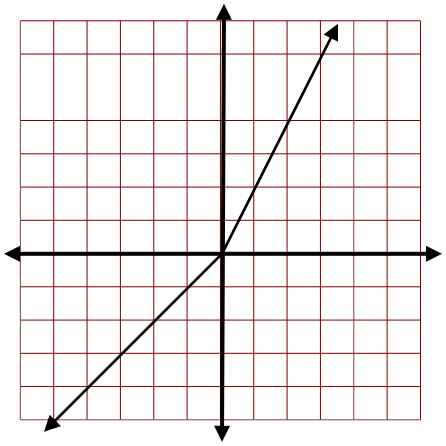
$f(-4)=$

$f(0)=$

$f(3)=$

Part II. Write equations for the piecewise functions whose graphs are shown below. Assume that the units are 1 for every tic marc.

7.



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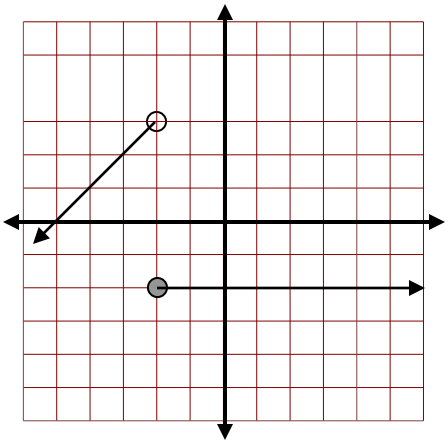
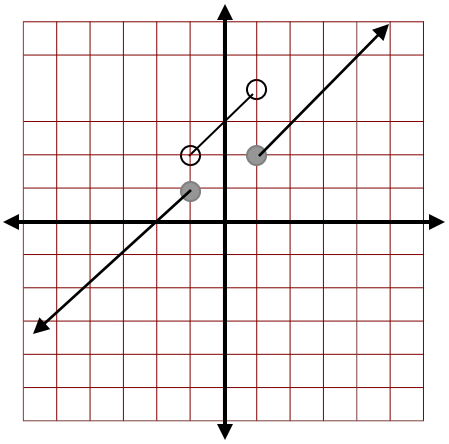


9.



10.