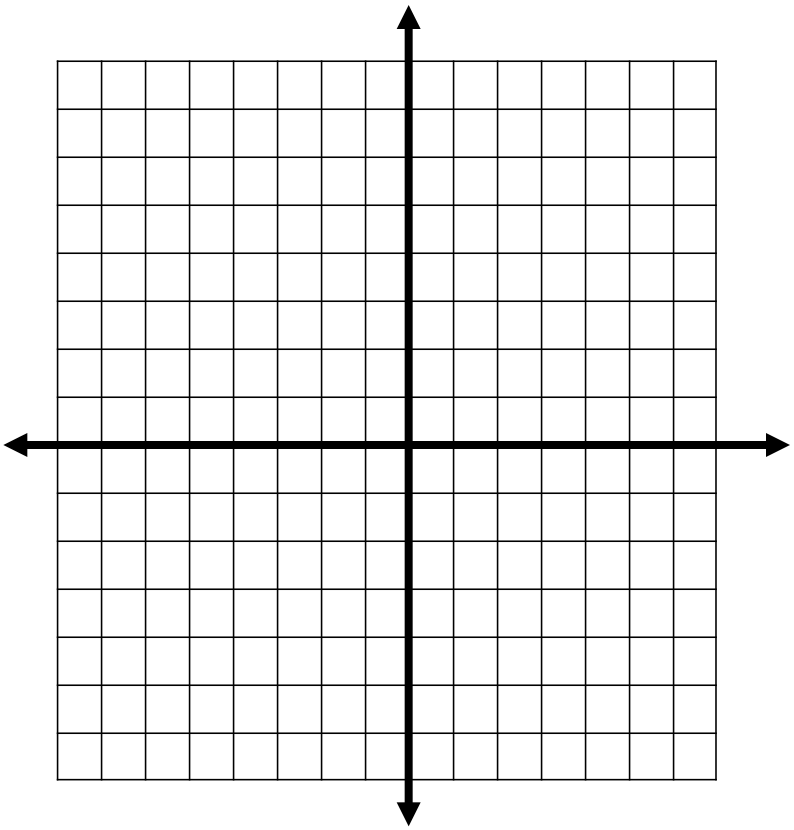
Worksheet Piecewise Functions Name:_____

Part I. Carefully graph each of the following. Plot each piece separately. Use T-Charts if needed. Identify whether or not the graph is a function. Then, evaluate the graph at the specified domain values.

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



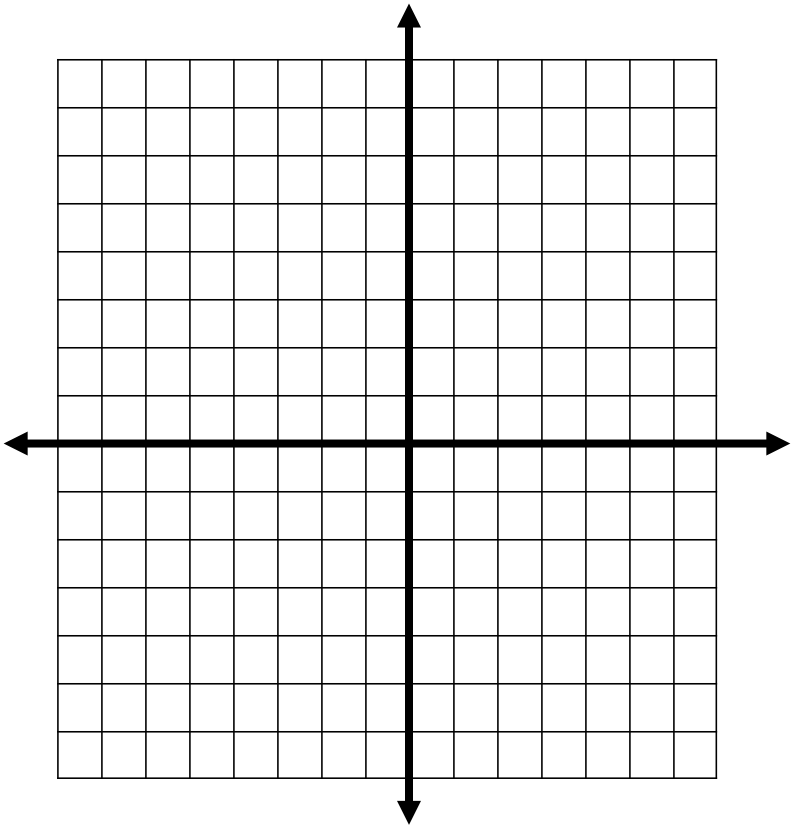
Function? Yes or No

$f(3)=$

$f(-4)=$

$f(-2)=$

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



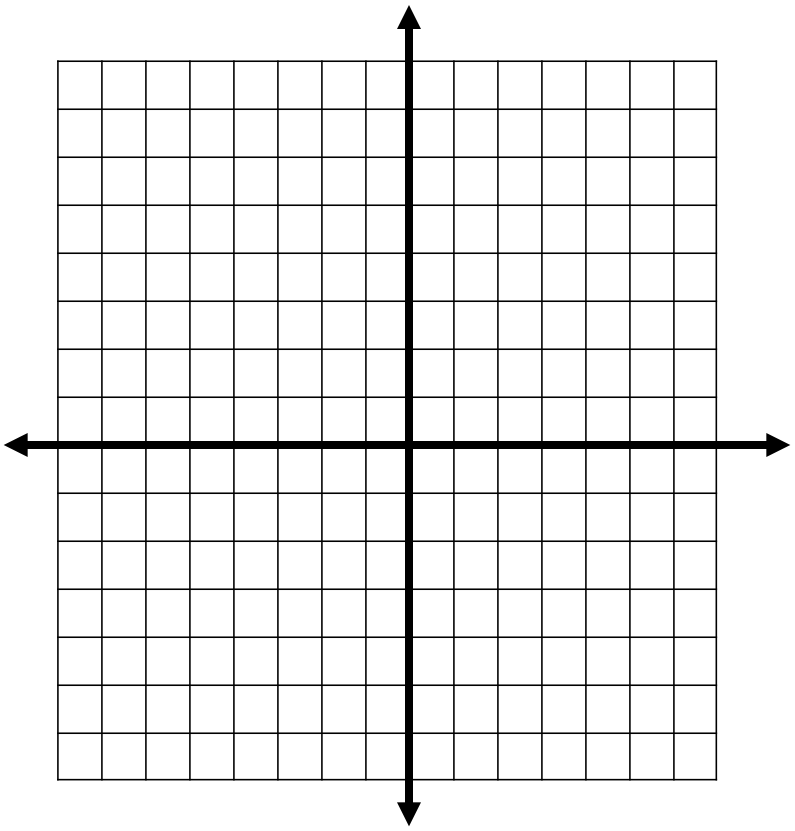
Function? Yes or No

$f(-2)=$

$f(6)=$

$f(1)=$

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



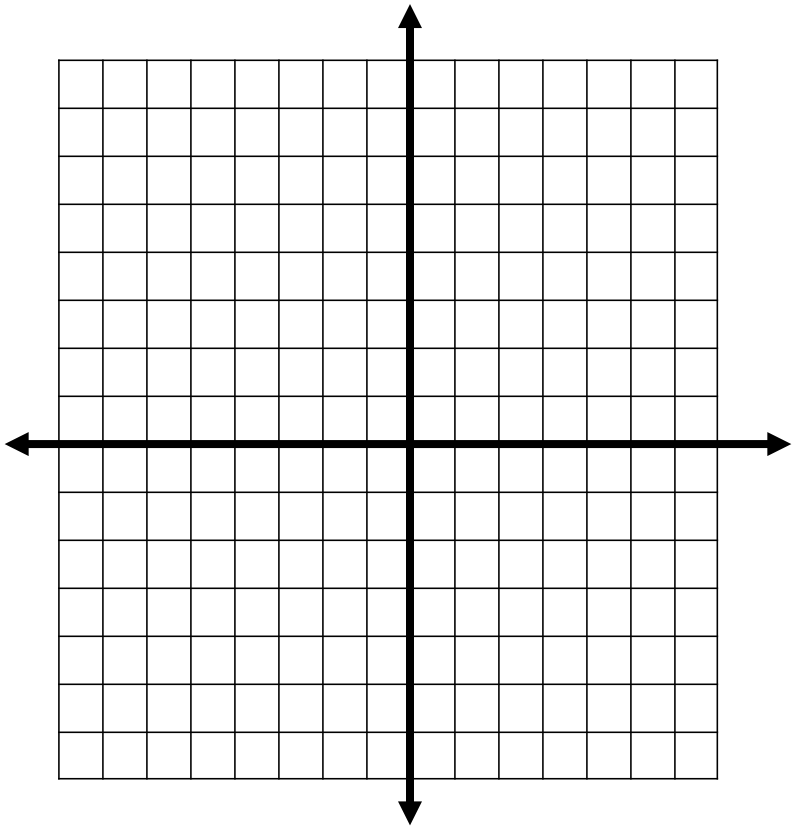
Function? Yes or No

$f(-4) =$

$f(8) =$

$f(2) =$

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



Function? Yes or No

$f(-2) =$

$f(0) =$

$f(5) =$

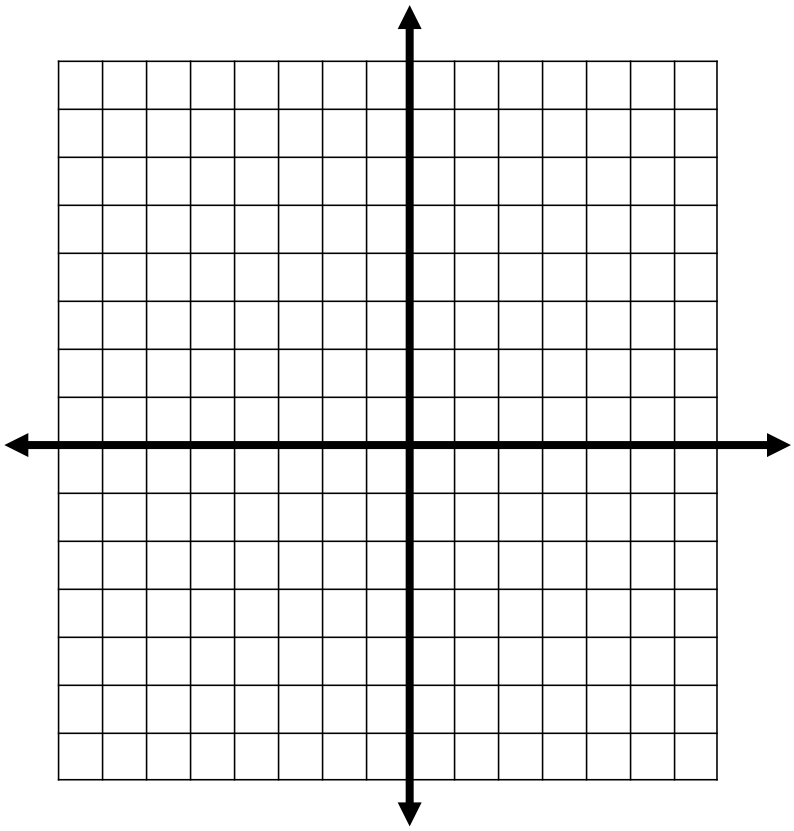
5. $f(x)=\begin{cases} -x+1 & x\le 0 \\ -\dfrac{4x}{3}-4 & x>0 \end{cases}$

Function? Yes or No

$f(-4)=$

$f(0)=$

$f(3)=$



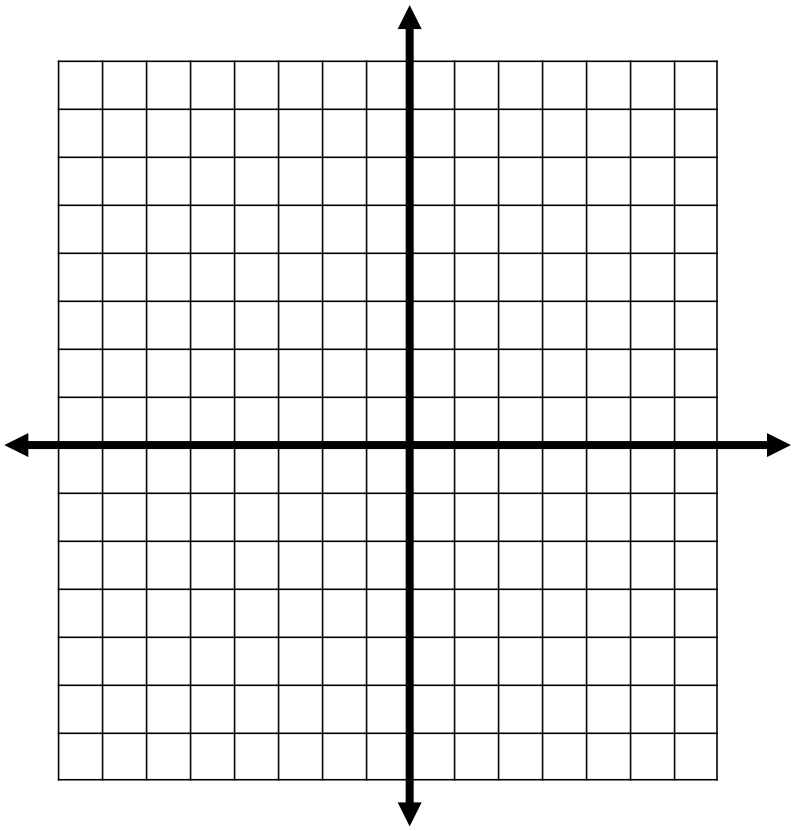
6. $f(x)=\begin{cases} -3 & x\le 3 \\ 2x-5 & x>3 \end{cases}$

Function? Yes or No

$f(-4)=$

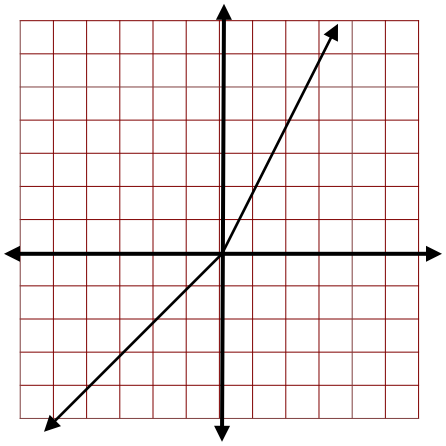
$f(0)=$

$f(3)=$



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

7.



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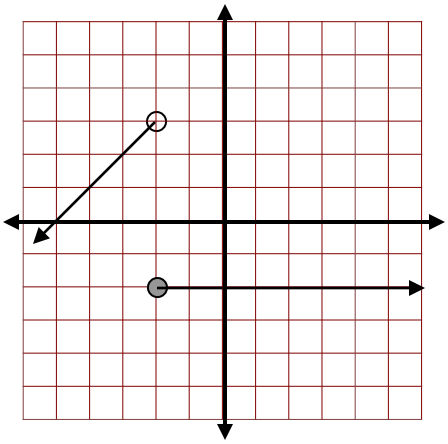

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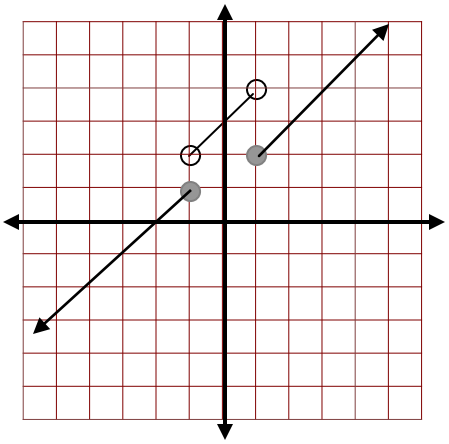
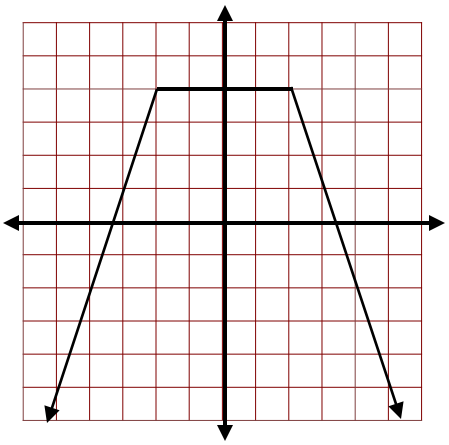


10.



11.