Worksheet Piecewise Functions   Name:_____
Algebra 2

Part I. Carefully graph each of the following. Identify whether or not he 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!
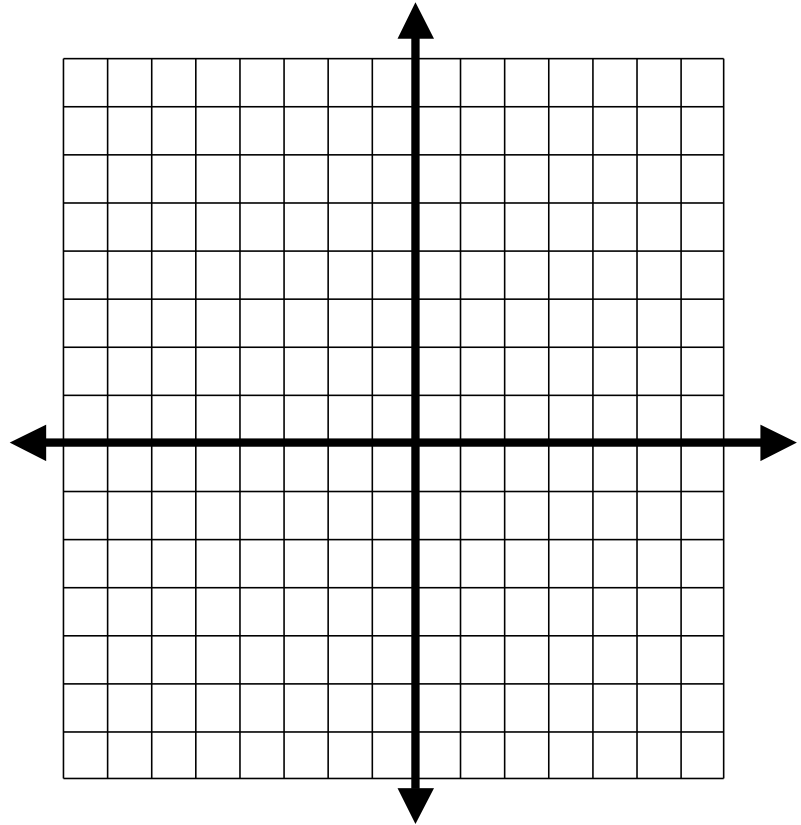
1. $f(x) = \begin{cases} x + 5 & x < -2 \\ x^2 + 2x + 3 & x \geq -2 \end{cases}$
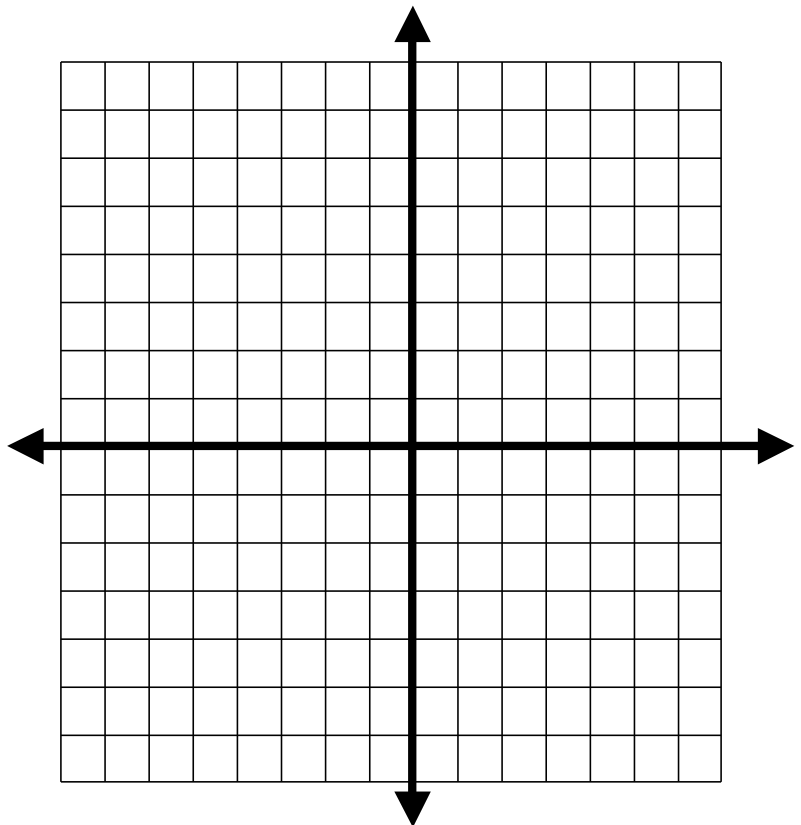
Function? Yes or No

$f(3) =$

$f(-4) =$

$f(-2) =$

2. $f(x) = \begin{cases} 2x + 1 & x \geq 1 \\ x^2 + 3 & x < 1 \end{cases}$
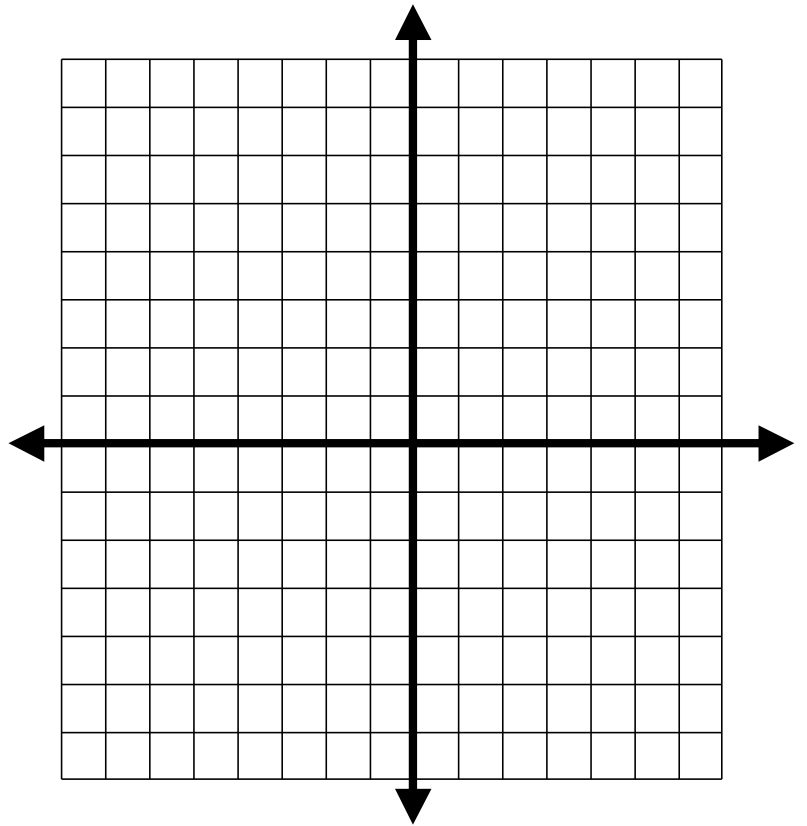
Function? Yes or No

$f(-2) =$

$f(6) =$

$f(1) =$

3. $f(x) = \begin{cases} -2x + 1 & x \leq 2 \\ 5x - 4 & x > 2 \end{cases}$
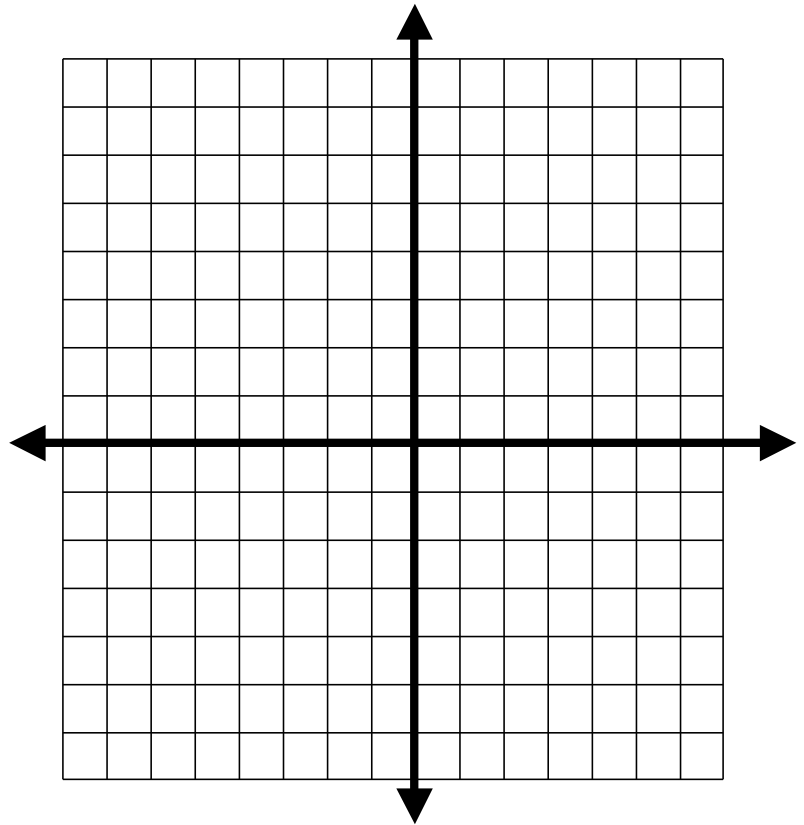
Function? Yes   or   No

$f(-4) =$

$f(8) =$

$f(2) =$

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

Function? Yes   or   No

$f(-2) =$

$f(0) =$

$f(5) =$
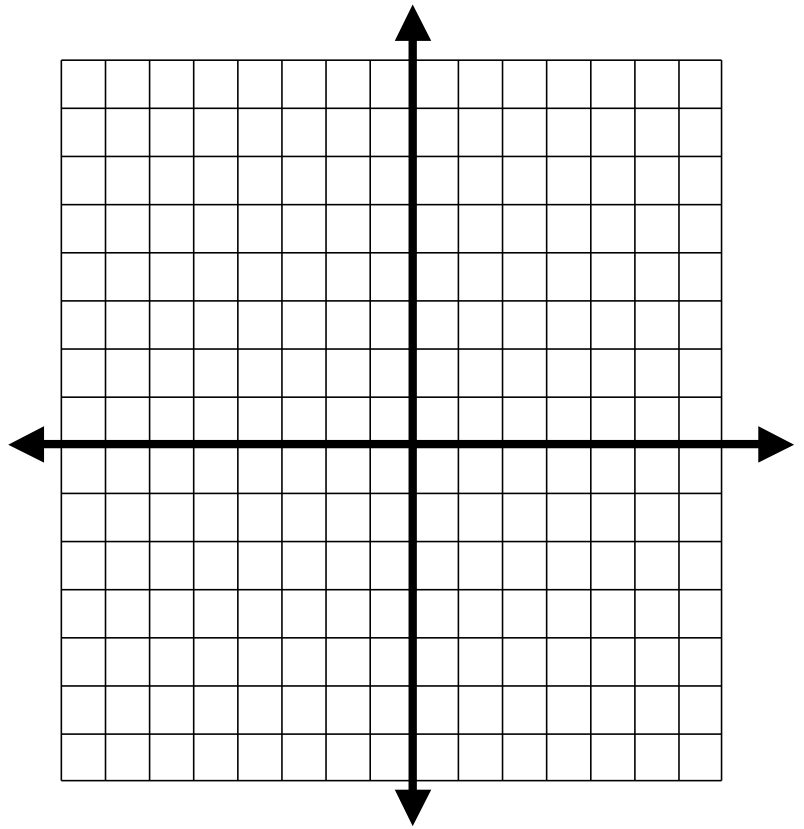
5. $f(x) = \begin{cases} x^2 & x \le 0 \\ -x^2 + 4 & x > 0 \end{cases}$

Function?   Yes   or   No
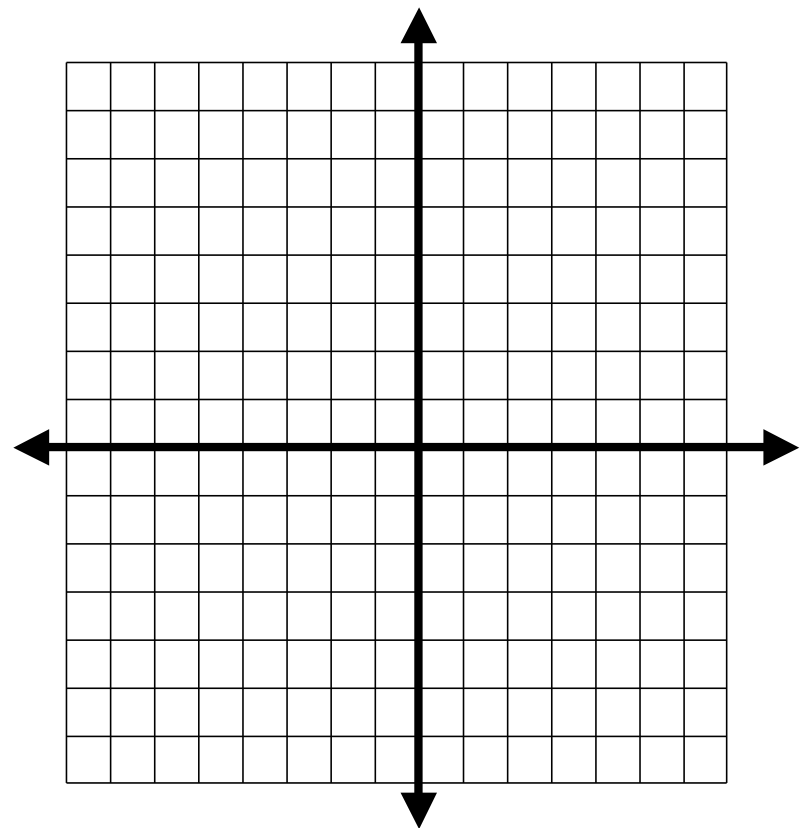
$f(-4) =$

$f(0) =$

$f(3) =$

6. $f(x) = \begin{cases} 5 & x \le -3 \\ -2x - 3 & x > -3 \end{cases}$
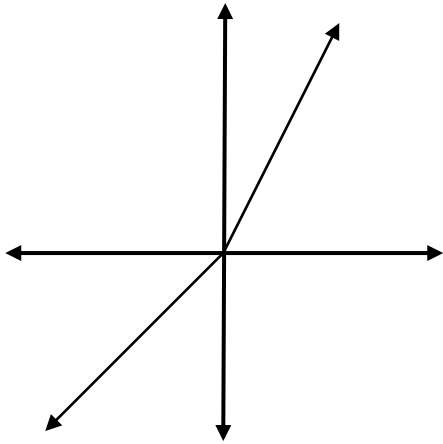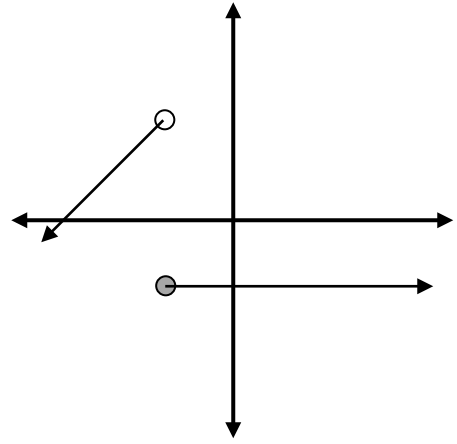
Function?   Yes   or   No

$f(-4) =$

$f(0) =$

$f(3) =$

Part II. Write equations for the piecewise functions whose graphs are shown below. Assume that the units are 1 for every tic marc.
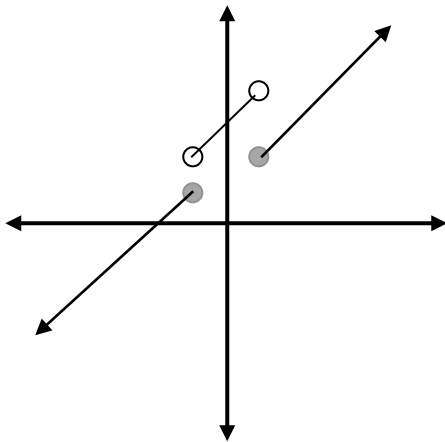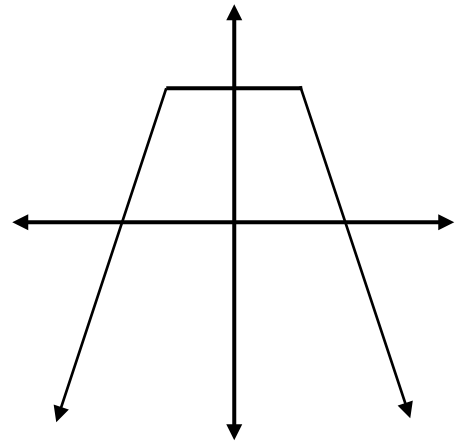
7.

8.

9.

10.

11.