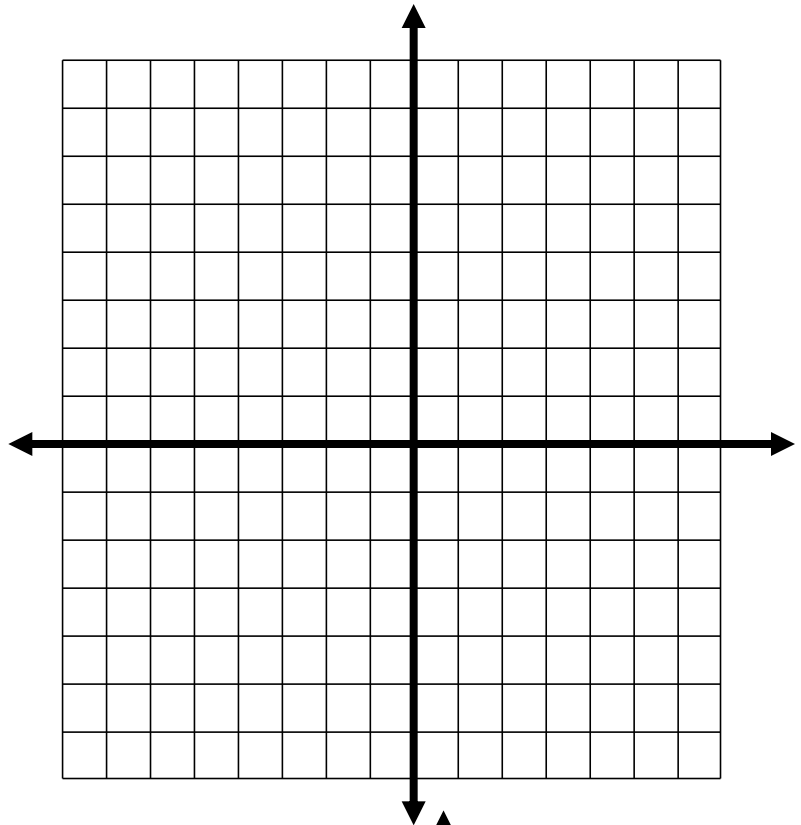Piecewise Functions #2

Name:_____

Part I. Carefully graph each of the following. 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. $f(x) = \begin{cases} x + 5 & x < -2 \\ x^2 + 2x + 3 & x \geq -2 \end{cases}$
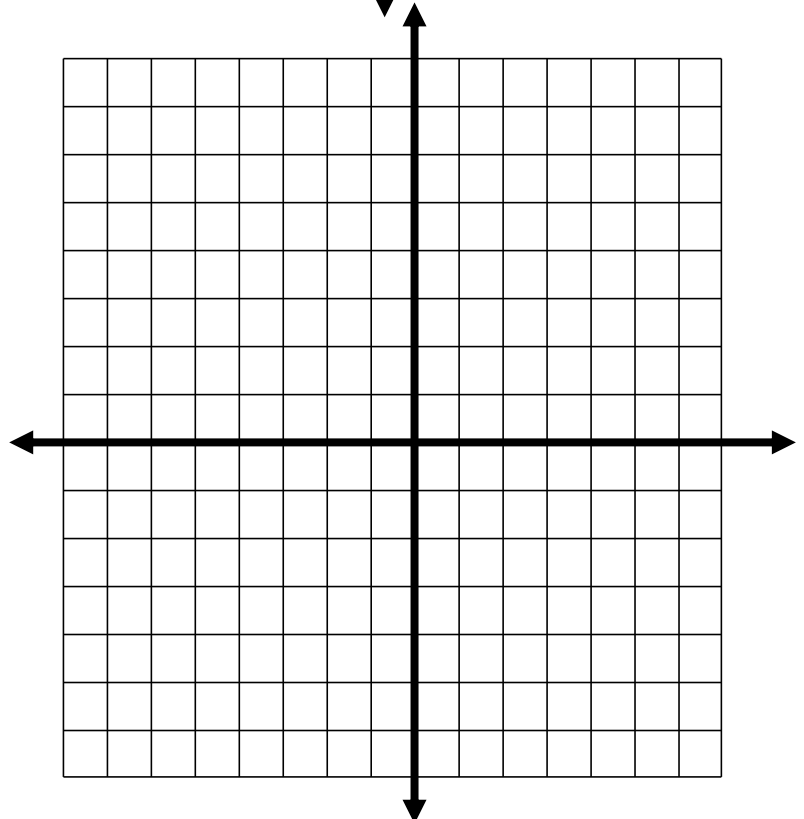
$f(3) =$

$f(-4) =$

$f(-2) =$

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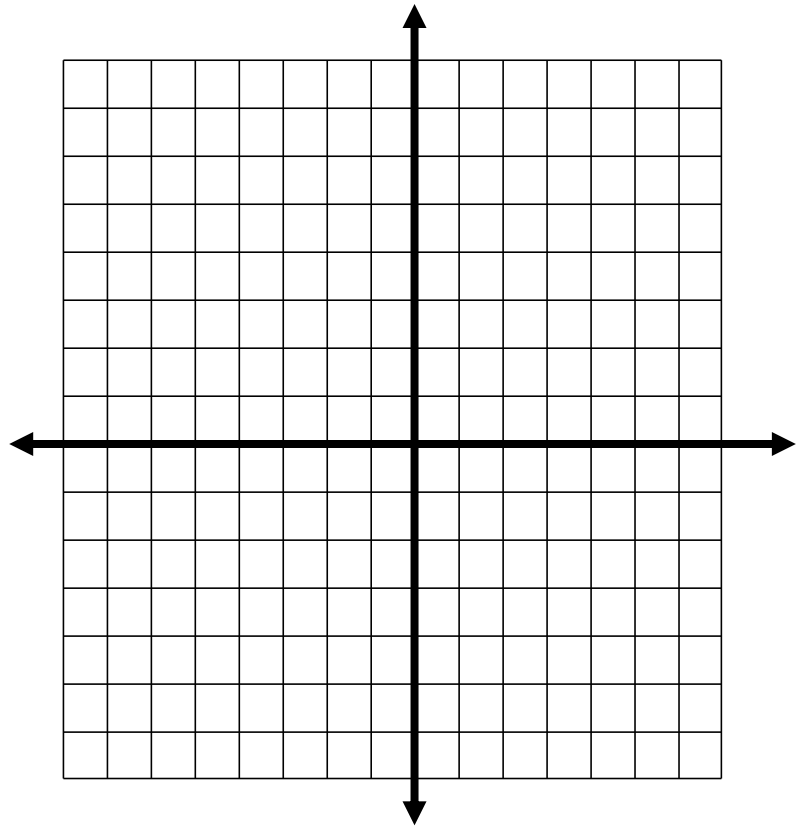
$f(-2) =$

$f(6) =$

$f(1) =$

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

$f(-4) =$

$f(8) =$

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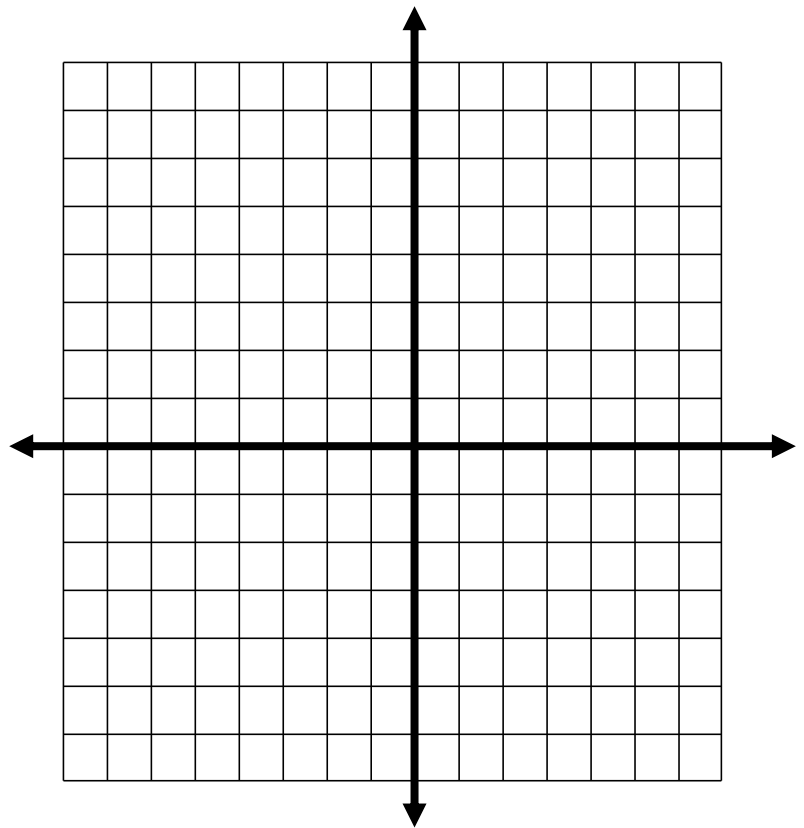
4. $f(x) = \begin{cases} x^2 - 1 & x \leq 0 \\ 2x - 1 & 0 < x \leq 5 \\ 3 & x > 5 \end{cases}$
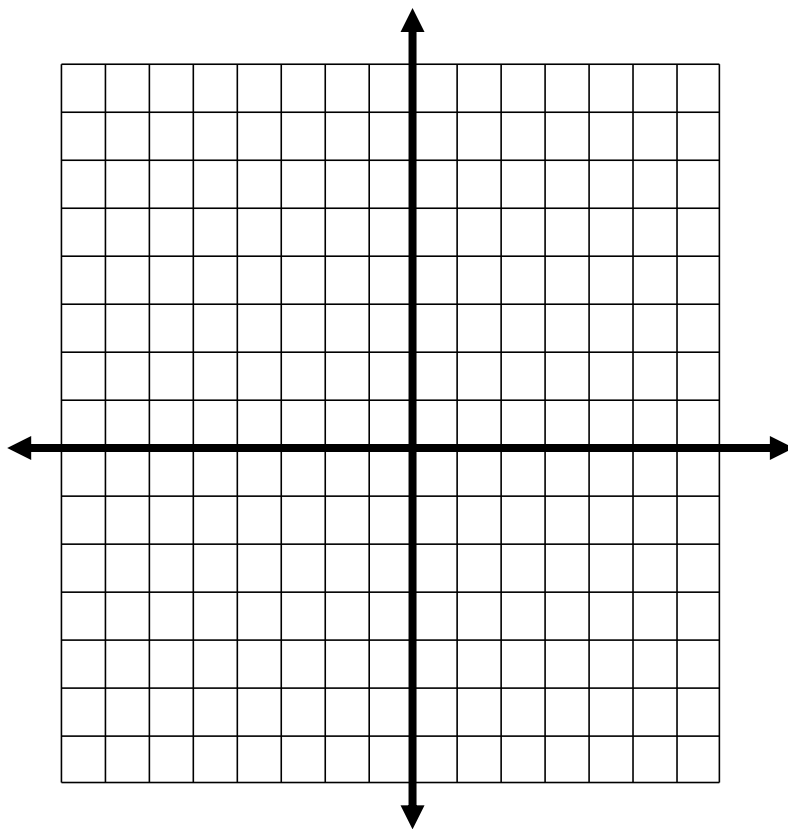
$f(-2) =$

$f(0) =$

$f(5) =$

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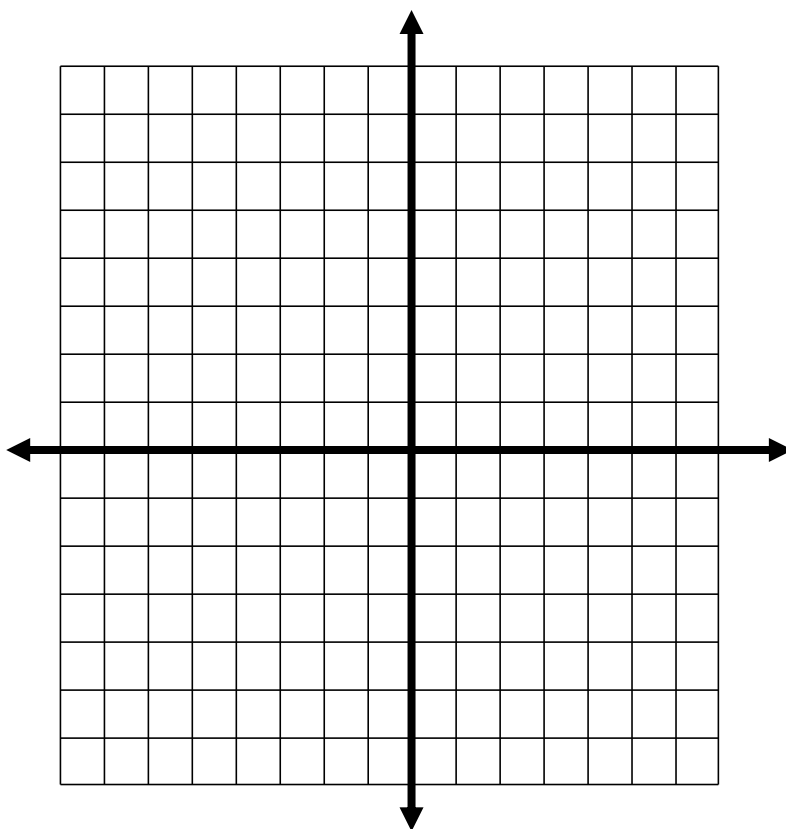
$f(-4) =$

$f(0) =$

$f(3) =$

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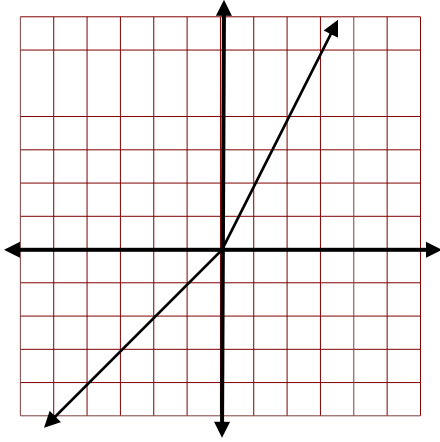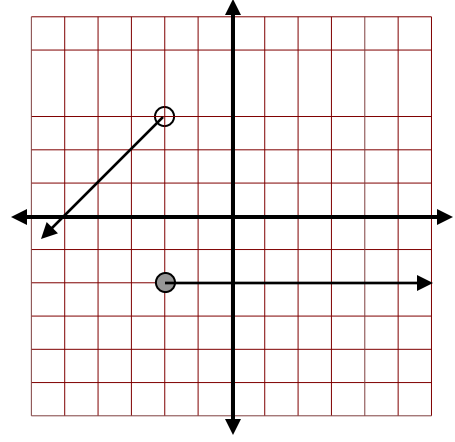
$f(-4) =$

$f(0) =$

$f(3) =$

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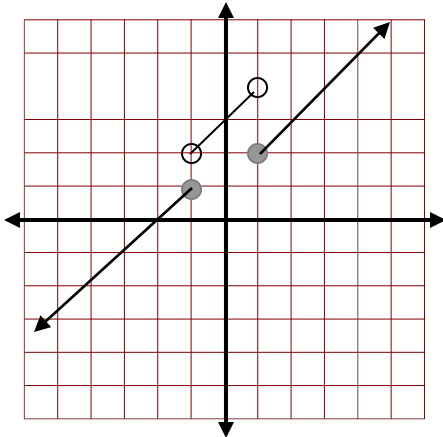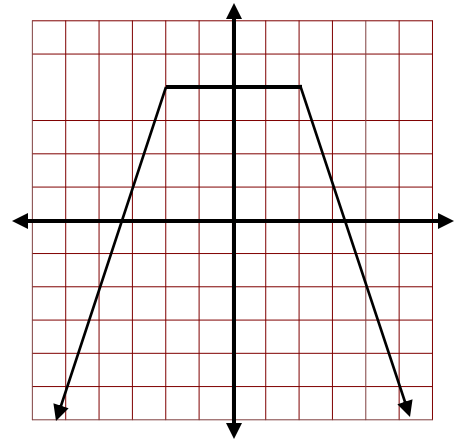
7.

8.

9.

10.

11.

Piecewise Function