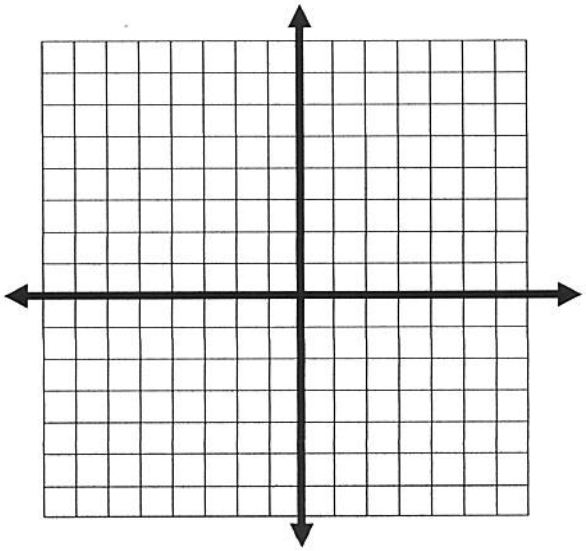
Name:_____ Date:_____

PC: Piecewise Functions

Part I. Graph each function. Find the domain and range for each piecewise function. Then, evaluate the function at the specified domain value.

1. $f(x) = \begin{cases} x+5 & x < -2 \\ x^2 + 2x + 3 & x \geq -2 \end{cases}$



Domain:_____

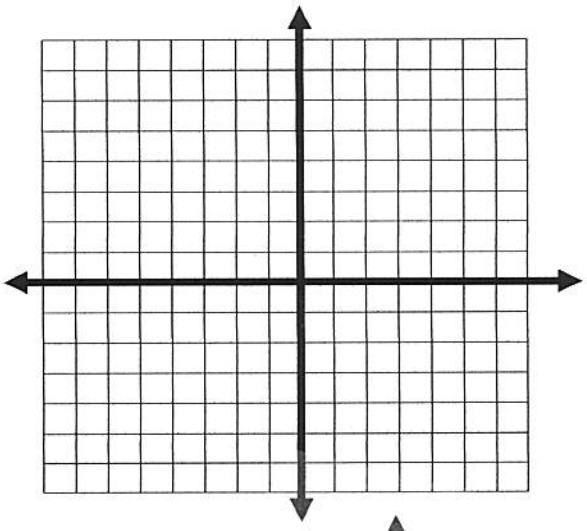
Range:_____

$f(3) =$

$f(-4) =$

$f(-2) =$

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



Domain:_____

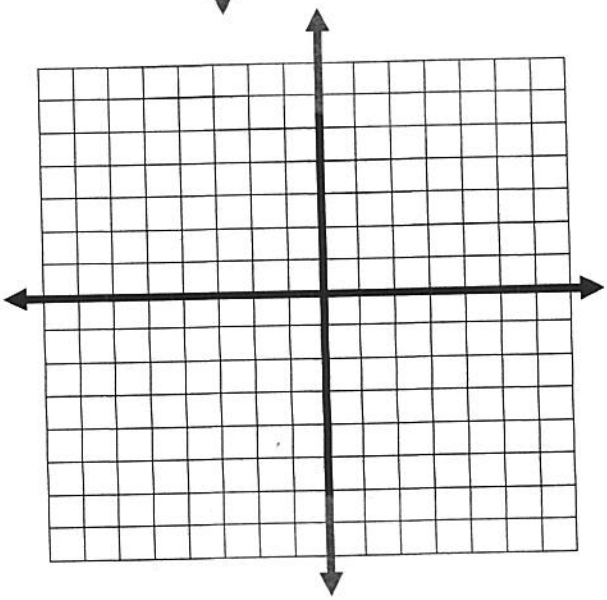
Range:_____

$f(-2) =$

$f(6) =$

$f(1) =$

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



Domain:_____

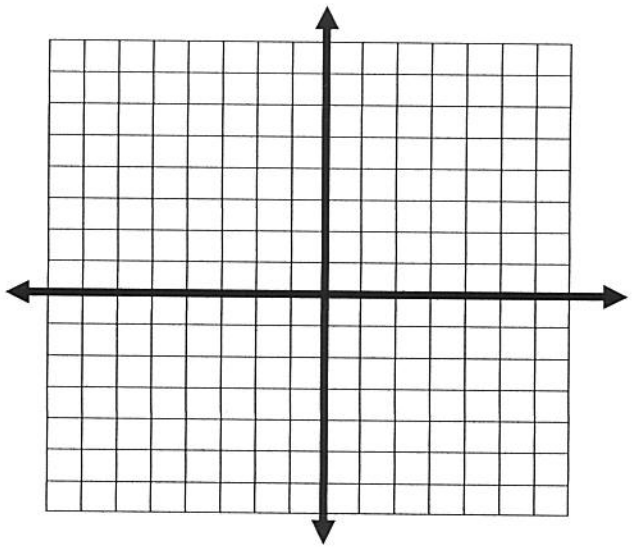
Range:_____

$f(-4) =$

$f(8) =$

$f(2) =$

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



Domain:_____

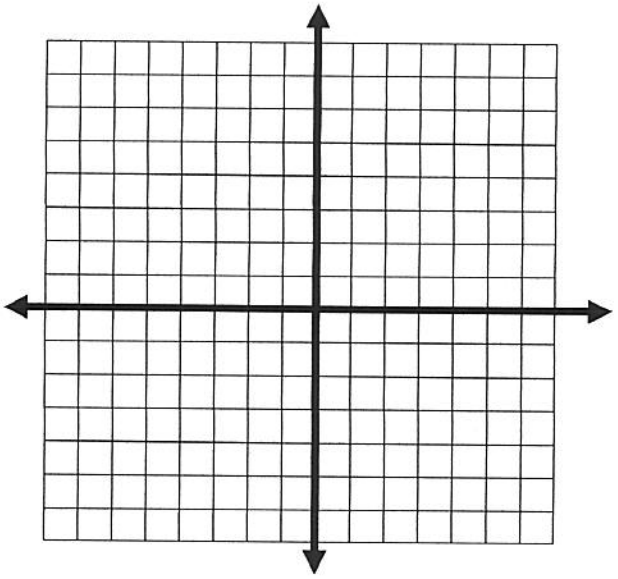
Range:_____

$f(-2) =$

$f(0) =$

$f(5) =$

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



Domain:_____

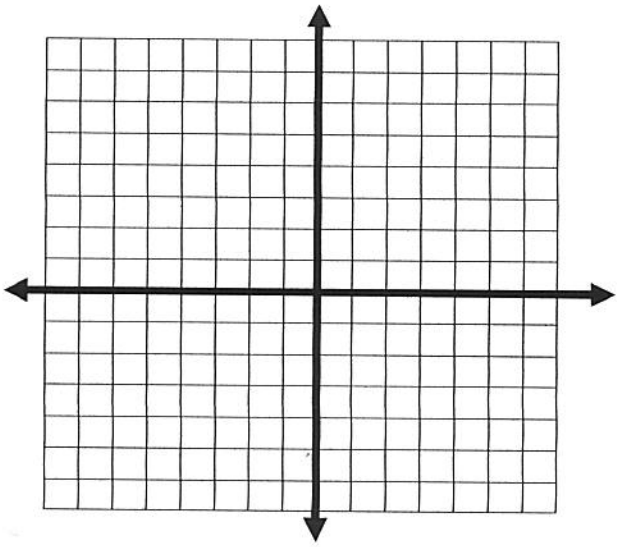
Range:_____

$f(-4) =$

$f(0) =$

$f(3) =$

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



Domain:_____

Range:_____

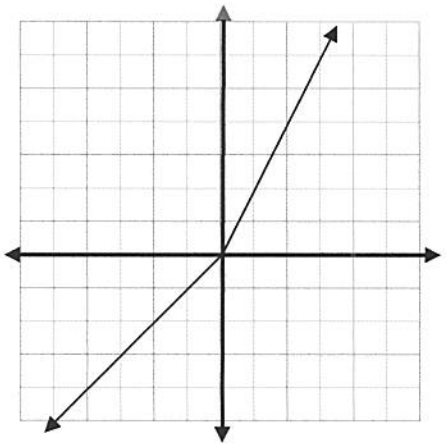
$f(-4) =$

$f(0) =$

$f(3) =$

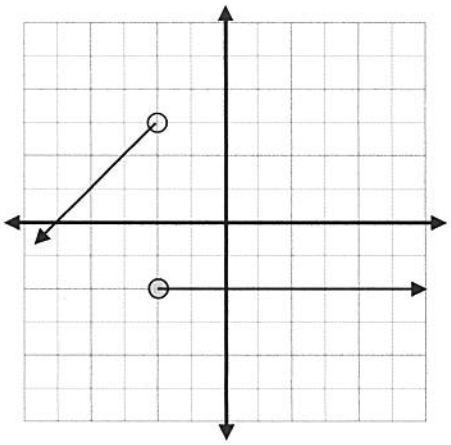
Part II. Evaluate the graph at the specified domain value. Write equations for the piecewise functions whose graphs are shown below.

7.



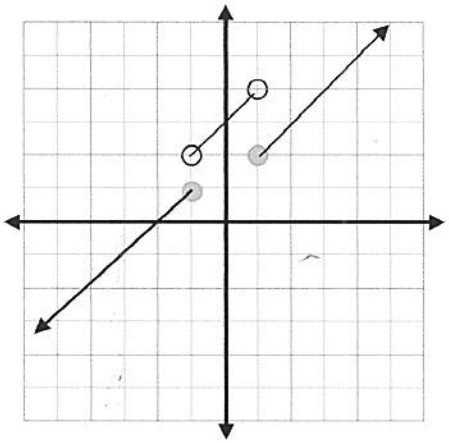
f(2) =
f(-1) =
f(-3) =

8.



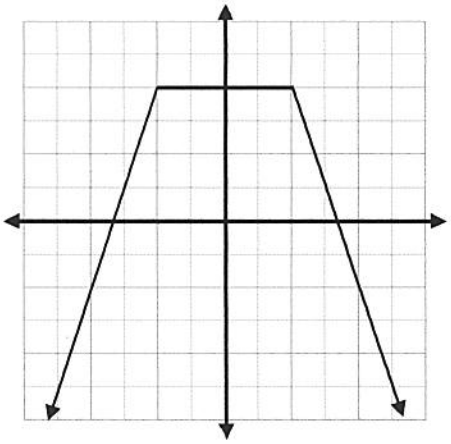
f(-2) =
f(3) =
f(-4) =

9.



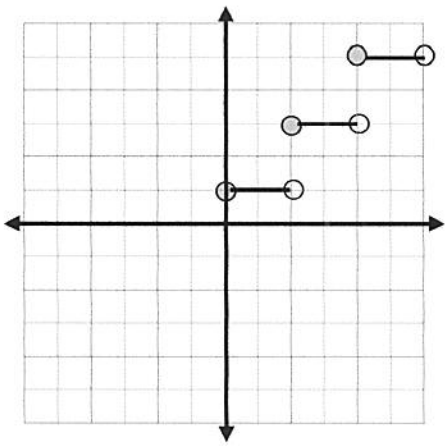
f(2) =
f(-1) =
f(0) =

10.



f(-2) =
f(3) =
f(-4) =

11.



f(2) =
f(3) =
f(4) =
**f(6) =