

Pre-Cal: Piece-Wise Functions

Part I: Match the piecewise function with its graph. State the Domain and Range for each graph.

1. $f(x) = \begin{cases} x - 4, & \text{if } x \leq 1 \\ 3x, & \text{if } x > 1 \end{cases}$

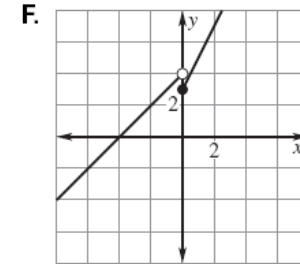
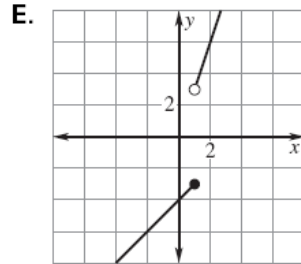
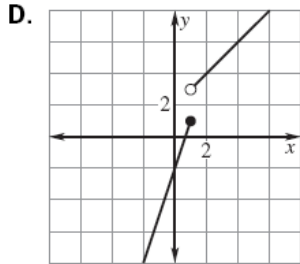
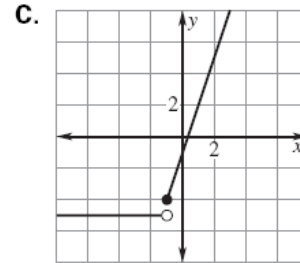
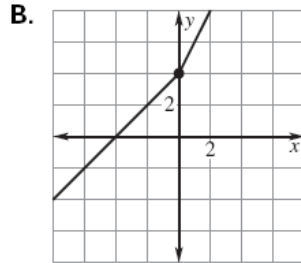
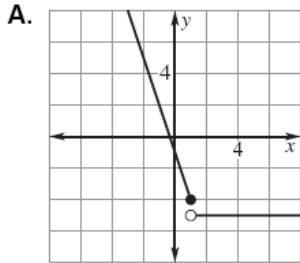
3. $f(x) = \begin{cases} x + 4, & \text{if } x \leq 0 \\ 2x + 4, & \text{if } x > 0 \end{cases}$

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

2. $f(x) = \begin{cases} 2x + 3, & \text{if } x \geq 0 \\ x + 4, & \text{if } x < 0 \end{cases}$

4. $f(x) = \begin{cases} 3x - 1, & \text{if } x \geq -1 \\ -5, & \text{if } x < -1 \end{cases}$

6. $f(x) = \begin{cases} -3x - 1, & \text{if } x \leq 1 \\ -5, & \text{if } x > 1 \end{cases}$



Part II. Carefully graph each of the following. Identify whether or not the graph is a function. Then, evaluate the graph at any specified domain value.

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

Function? Yes or No

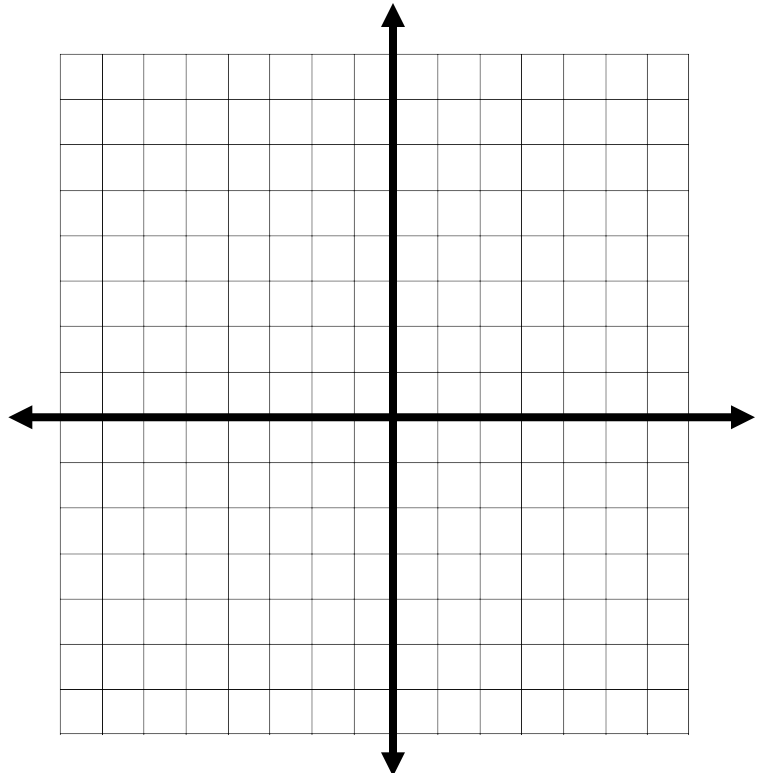
$f(3) =$

$f(-4) =$

$f(-2) =$

Domain:

Range:



8.
$$f(x) = \begin{cases} -x+4 & x \leq 0 \\ \frac{2x}{3}-1 & 0 < x \leq 3 \\ 2 & x > 5 \end{cases}$$

Function? Yes or No

$f(-2) =$

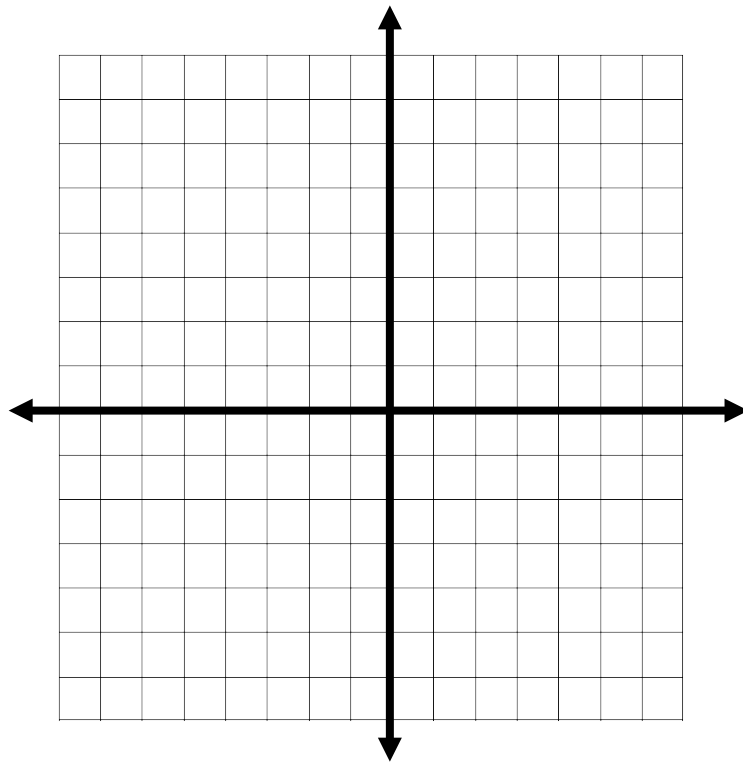
$f(0) =$

$f(5) =$

$f(7) =$

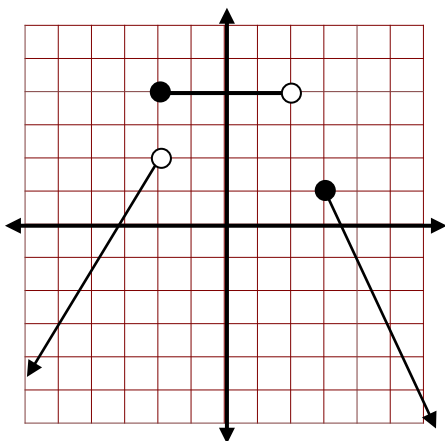
Domain:

Range:



Part III. Write equations for the piecewise functions whose graphs are shown below. Assume that the units are 1 for every square.

9.



10.

