

Name:

Date:

Period:

On a separate piece of graph paper, graph the following piecewise functions. Be sure to include the APPROPRIATE tables and labels.

1. $f(x) = \begin{cases} x + 5 & \text{if } x < -2 \\ -4 & \text{if } x \geq -2 \end{cases}$

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

3. $f(x) = \begin{cases} -2x - 4 & \text{if } x \leq 2 \\ 4x - 9 & \text{if } x > 2 \end{cases}$

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

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

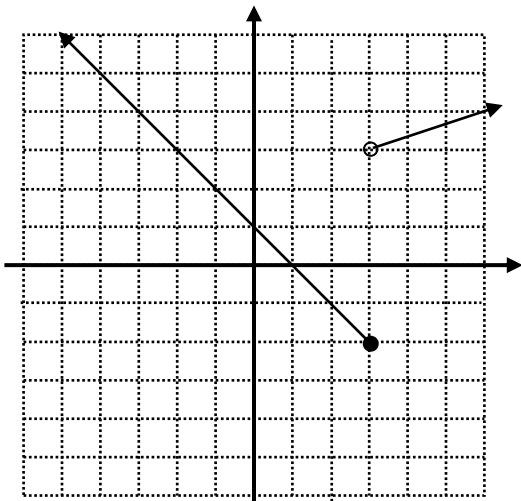
6. $f(x) = \begin{cases} 5 & \text{if } x < -2 \\ \frac{1}{2}x - 6 & \text{if } -2 \leq x \leq 6 \\ -2x + 10 & \text{if } x > 6 \end{cases}$

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

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

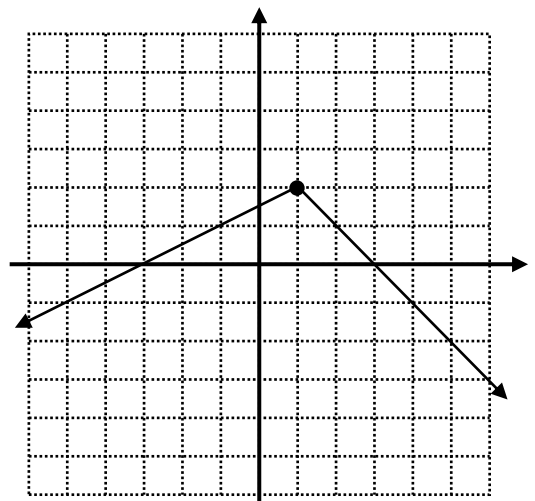
9. Write the functions for the given graphs.

$f(x) = \begin{cases}$



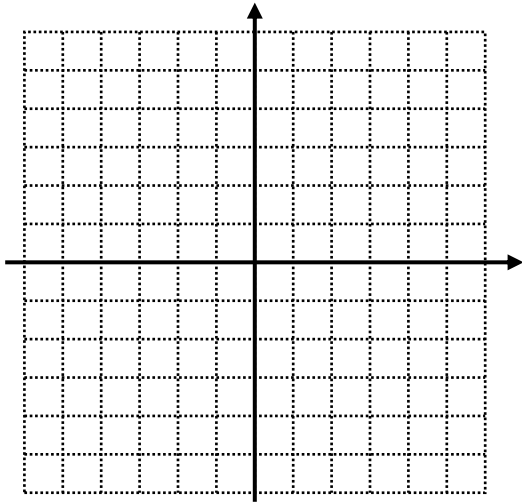
10. Write the functions for the given graphs.

$f(x) = \begin{cases}$



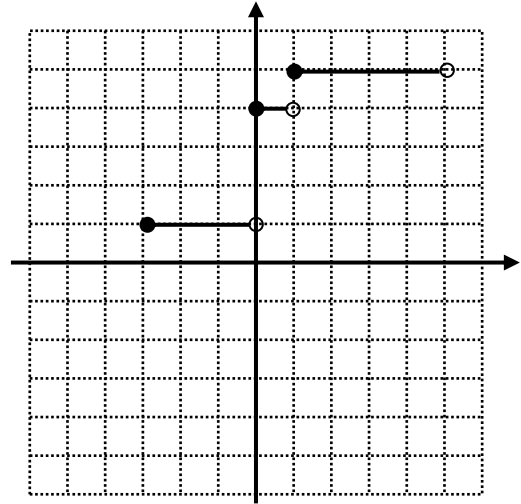
11. Graph the step function.

$$f(x) = \begin{cases} 1 & \text{if } -4 \leq x < -1 \\ 3 & \text{if } -1 \leq x < 2 \end{cases}$$



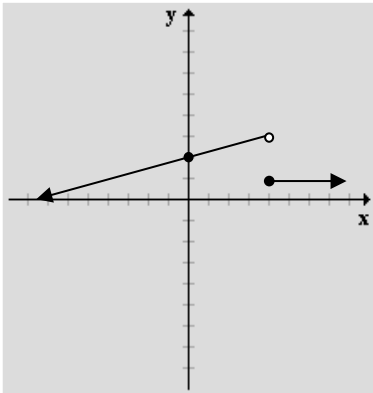
12. Write the step function.

$$f(x) = \begin{cases} \end{cases}$$

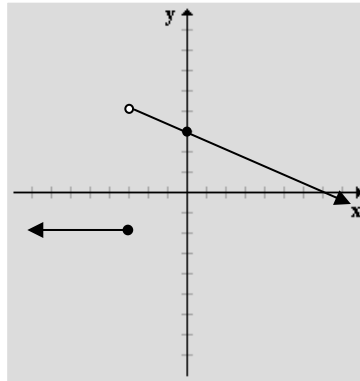


For problems 13-15, give the piecewise function that each graph represents.

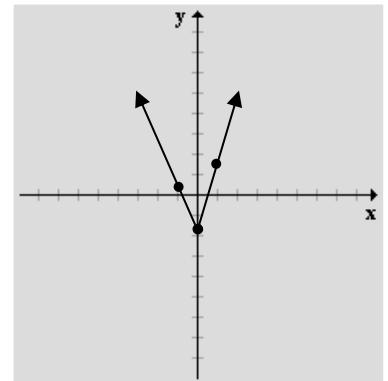
13.



14.



15.



For problems 16 - 24, write out the proper tables for each piecewise function with the proper boundary notation (\circ , \bullet or \leftarrow). Include at least 4 points for each table.

16.	$f(x) = \begin{cases} x + 3 & \text{if } x < -1 \\ 2x - 1 & \text{if } x \geq -1 \end{cases}$	17.	$f(x) = \begin{cases} x - 1 & \text{if } x \leq 3 \\ 2 & \text{if } x > 3 \end{cases}$	18.	$f(x) = \begin{cases} -1 & \text{if } x < 0 \\ x - 3 & \text{if } x \geq 0 \end{cases}$
19.	$f(x) = \begin{cases} 4 - x & \text{if } x \leq 2 \\ 3x - 6 & \text{if } x > 2 \end{cases}$	20.	$f(x) = \begin{cases} -2x & \text{if } x < -1 \\ 3x - 1 & \text{if } -1 \leq x \leq 2 \\ -\frac{1}{2}x & \text{if } x > 2 \end{cases}$	21.	$f(x) = \begin{cases} 2 + x & \text{if } x < -2 \\ -x & \text{if } -2 \leq x \leq 1 \\ 0 & \text{if } x > 1 \end{cases}$
22.	$f(x) = \begin{cases} x & \text{if } x \leq -2 \\ 2x & \text{if } x > -2 \end{cases}$	23.	$f(x) = \begin{cases} -2 & \text{if } x < 0 \\ 2 & \text{if } x > 0 \end{cases}$	24.	$f(x) = \begin{cases} 2x + 1 & \text{if } x < -1 \\ 2x + 2 & \text{if } x \geq -1 \end{cases}$