

Do Now

Graph the following functions. Then, evaluate the graph at the specified domain below.

$$f(x) = \begin{cases} x+2, & x > 0 \\ -x-2, & x \leq 0 \end{cases}$$

$$f(x) = x + 2$$

$x > 0$
open

$$m: 1$$

$$b: 2$$

$$f(x) = -x - 2$$

$x \leq 0$
closed

$$m: -1$$

$$b: -2$$

OR

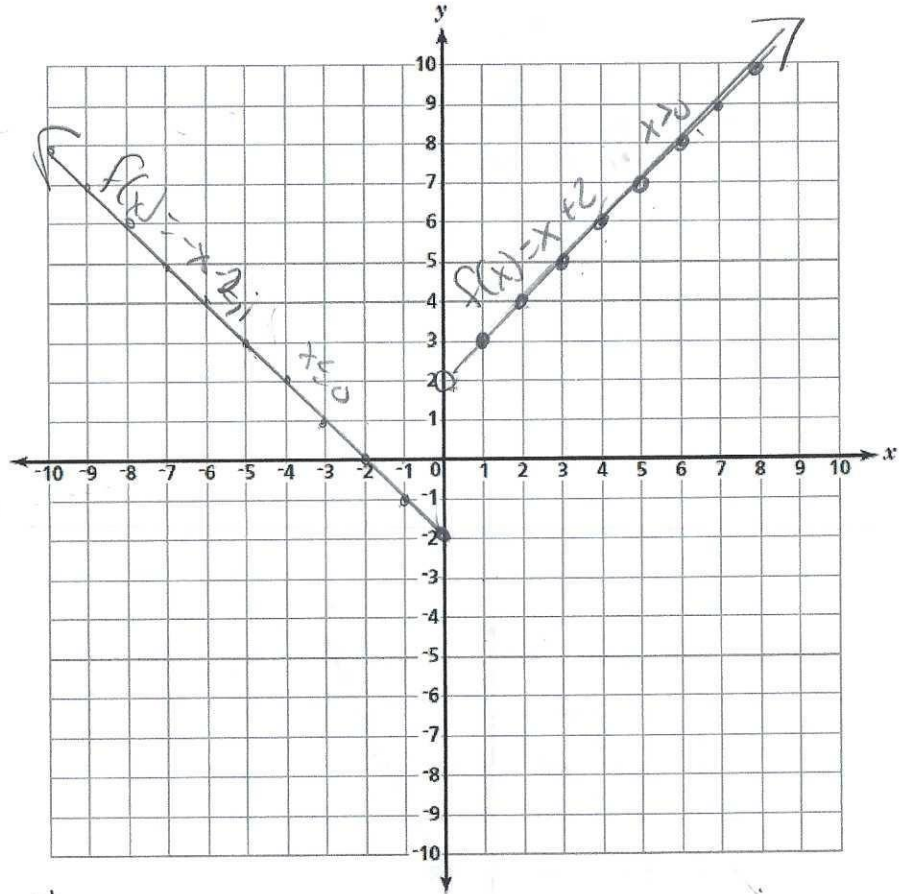
x	y
0	2
1	3
2	4
3	5
4	6
5	7
6	8

open

OR

x	y
-6	4
-5	3
-4	2
-3	1
-2	0
-1	-1
0	-2

closed



$$f(-5) = 3$$

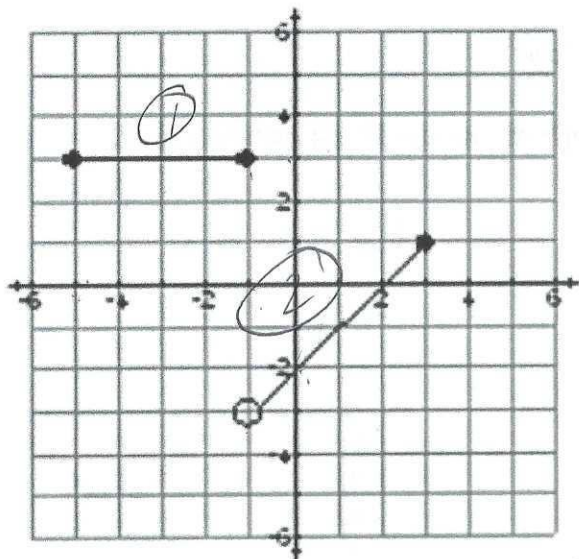
$$f(0) = -2$$

$$f(3) = 5$$

Write a piecewise function for the graphs shown.

★ whatever comes first from left to right gets done first

2)



① $y = mx + b$

$m = 0$

$b = 3$

$y = 3$

$-5 \leq x \leq -1$

② $y = mx + b$

$m = 1$

$b = -2$

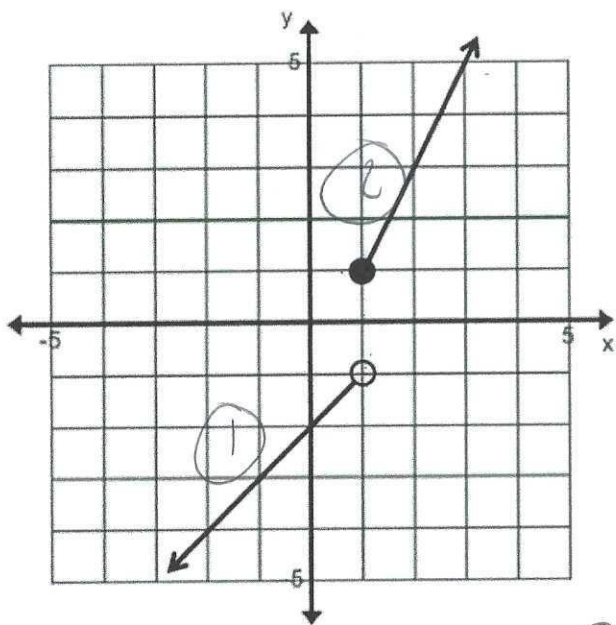
$y = x - 2$

$-1 < x \leq 3$

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

numerical order

3)



① $y = mx + b$

$m = 1$

$b = -2$

$y = x - 2$

$x < 1$

②

$y = mx + b$

$m = 2$

$b = -1$

$y = 2x - 1$

$x \geq 1$

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

numerical order