

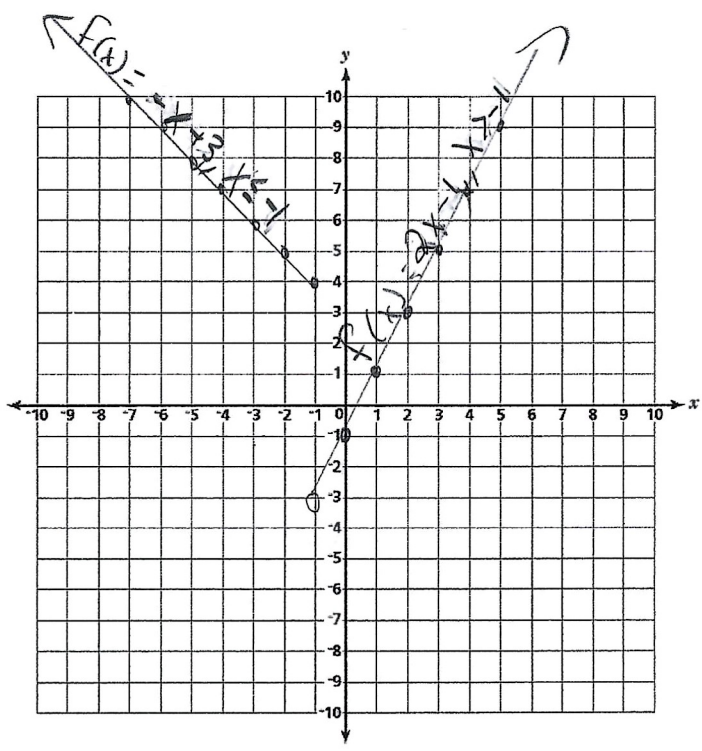
Name Key
8A; Algebra 1

Date _____
Period _____

Homework

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

$f(x) = 2x - 1$ $x > -1$ slope $m = \frac{2}{1}$ $B = -1$	$f(x) = -x + 3$ $x \leq -1$ slope $m = -\frac{1}{1}$ $B = 3$
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a) What is the domain in set builder notation? $\{x | x \in \mathbb{R}\}$

b) What is the range in set builder notation? $\{y | y > -3\}$

c) What is the domain in interval notation? $(-\infty, \infty)$

d) What is the range in interval notation? $(-3, \infty)$

2. On the following graph, graph the following piecewise function:

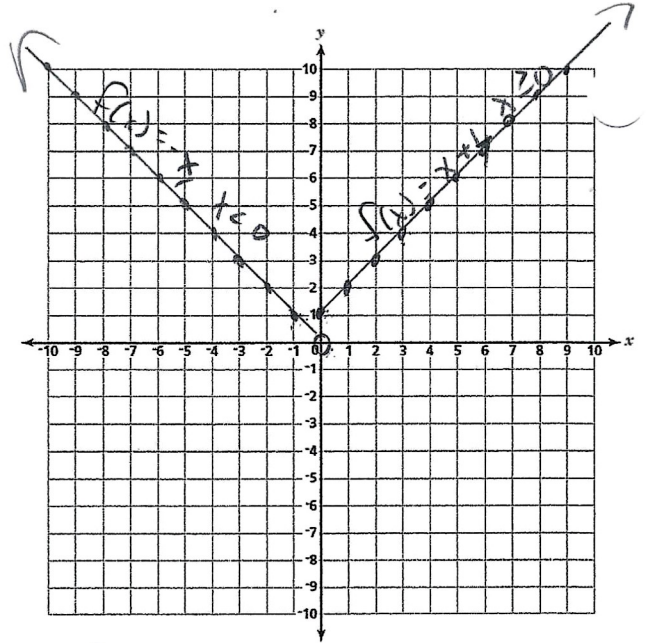
$$f(x) = \begin{cases} -x, & x < 0 \\ x+1, & x \geq 0 \end{cases}$$

$$f(x) = -x$$

$x < 0$
 open
 $m = -1$
 $B = 0$

$$f(x) = x+1$$

$x \geq 0$
 closed
 $m = 1$
 $B = 1$



- a) What is the domain in interval notation? $(-\infty, \infty)$
- b) What is the range in interval notation? $(0, \infty)$

3. On the following graph, graph the following piecewise function:

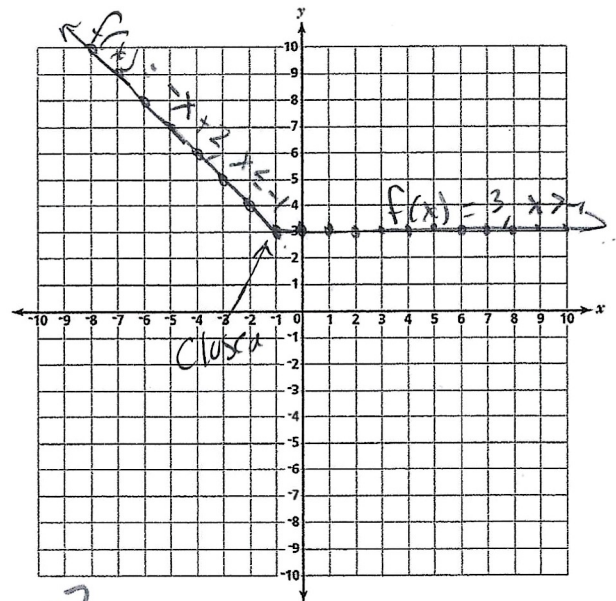
$$f(x) = \begin{cases} 3, & x > -1 \\ -x+2, & x \leq -1 \end{cases}$$

$$f(x) = 3$$

$x > -1$
 open
 $m = 0$
 $B = 3$

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

$x \leq -1$
 closed
 $m = -1$
 $B = 2$



★ If the domain value has one open and one closed dot, then you close the dot!

- a) What is the domain in set builder notation? $\{x \mid x \in \mathbb{R}\}$
- b) What is the range in set builder notation? $\{y \mid y \geq 3\}$