

open dot $<, >$ closed dot $\leq, \geq$

Name _____

ID: 1

Chapter 6 Review

Date _____ Period _____

Draw a graph for each inequality.

1) $x > -3$ *Tip: Variable symbol & Then Symbol & arrow go in same direction*

2) $-4 \geq x$ *Tip: Rewrite $x \leq -4$*

Write an inequality for each graph. Use the variable "X"

3) $x > -1$ *Write "X" symbol & "*

4) $x \leq 5$

SOLVE each inequality. Circle the solution. Then GRAPH its solution.

5) $4 \leq 2n - 3n$

$n \leq -4$:

$4 \leq -n$ *when you mult/div. the variable by a negative & reverse the symbol!!*

$-4 \geq n$ rewrite

$n \leq -4$

6) $-24 > 1 - 4x + 3$

simplify $x > 7$:

$-24 > -4x + 4$

$-28 > -4x$

$7 < x \rightarrow x > 7$

7) $-6x - 3(x - 3) \leq 39 - 3x$

$x \geq -5$:

$-6x - 3x + 9 \leq -3x + 39$

$-9x + 9 \leq -3x + 39$

$-6x + 9 \leq 39$

$-6x \leq 30$

$x \geq -5$

SOLVE each compound inequality. Circle the solution. Then GRAPH its solution.

8) $8 \leq 3x - 10 \leq 20$

ISOLATE X $6 \leq x \leq 10$:

$18 \leq 3x \leq 30$

$6 \leq x \leq 10$

9) $7 \leq -6x \leq 55$

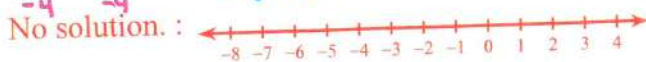
$-8 \leq x \leq 0$:

$0 \leq -6x \leq 48$

$0 \geq x \geq -8$ rewrite $-8 \leq x \leq 0$

Solve each compound inequality and graph its solution. THINK!

10) $-4a < -40$ and $a + 8 \leq 13$



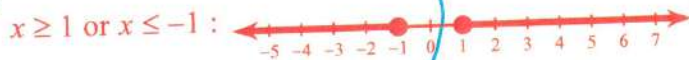
$A > 10$ AND $A \leq 5$



LOOK AT GRAPH. "AND" MUST INTERSECT
SINCE IT DOES NOT INTERSECT
X = NO SOLUTION

Solve each compound inequality and graph its solution.

11) $4 - x \leq 9x - 6$ or $-7x - 1 \geq 7 + x$



$\frac{-10x}{-10} \leq \frac{-10}{-10}$

$\frac{-8x}{-8} \geq \frac{8}{-8}$

$x \geq 1$ OR $x \leq -1$

MUST HAVE



12) $1 + 7x \geq -27$ or $-6x + 6 \geq -30$



$\frac{7x}{7} \geq \frac{-28}{7}$

$\frac{-6x}{-6} \geq \frac{-36}{-6}$

$x \geq -4$ OR $x \leq 6$

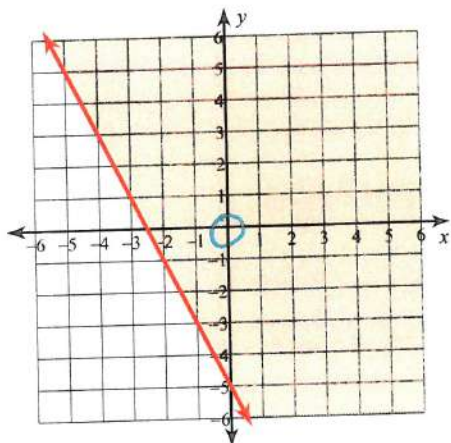


"OR" overlaps + covers entire number line

X = ALL REAL NUMBERS

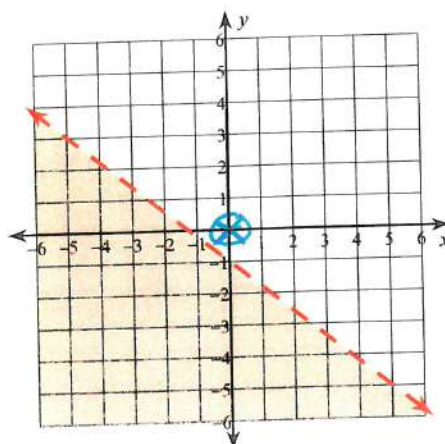
Sketch the graph of each linear inequality.

13) $y \geq -2x - 5$



T(0,0)
0 > -5 T

14) $y < -\frac{4}{5}x - 1$



T(0,0)
0 < -1 F