

Bell Ringer

Section 1.7 – Interval notation

1. What are the solutions of $5t - 2 \leq 3t + 14$? Then graph the solution on a number line and write the solution in interval notation.

$-2t - 16 \leq 2$
 $2t \leq 16 \quad t \leq 8$

2. What are the solutions of $4(2x - 3) > 8x - 17$? Then graph the solution on a number line and write the solution in interval notation.

all reals
 ∞

$8x - 12 > 8x - 17$
 $-12 > -17$

3. What are the solutions of $2(x+5) - x \geq 3$? Then graph the solution on a number line and write the solution in interval notation.

$2x + 10 - x \geq 3$
 $x + 10 \geq 3$
 $x \geq -7$

4. What is the solution of $8x + 16 - 4x = 24$?

$4x + 16 = 24$
 $4x = 8$
 $x = 2$

correct hw 1.7 #s 11-18 all, 19-27 odds, 37, 38

$$2(x) + 2(-3) \quad /15$$

$$\frac{2(x-3)}{2} \leq 10 \quad x \leq 8$$

$$\frac{2}{2} + 3 \quad \frac{2}{2} = 8$$

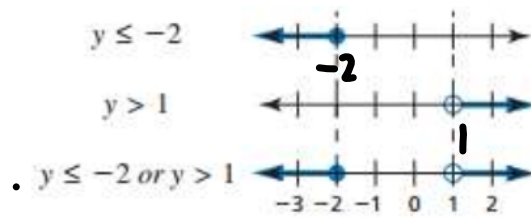
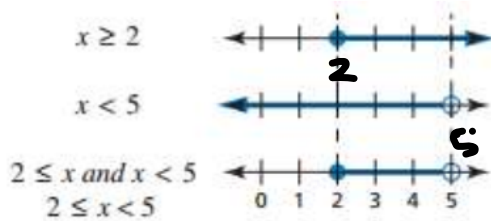
due tues: Interval Notation ws from yesterday

Lesson 1.8 - Solving Compound Inequalities

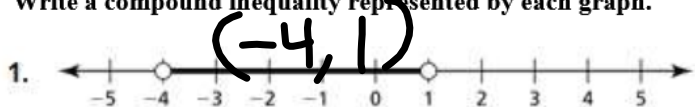
Word	Definition	Picture or Example
Compound Inequality	An inequality formed by joining two inequalities with "and" or "or"	$y \leq -2$ or $y > 1$ $2 \leq x$ and $x < 5$ $2 \leq x < 5$

"And" is the *intersection* of the graphs.
 Graph will show numbers that are solutions of *both* inequalities.

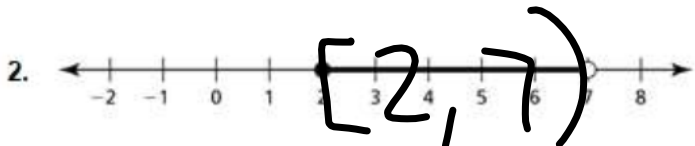
"Or" is the *union* of the graphs.
 Graph will show numbers that are solutions of *either* inequality.



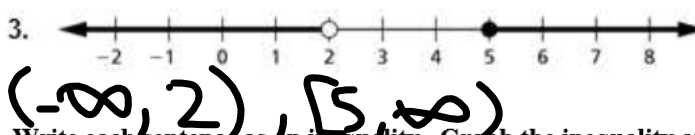
Write a compound inequality represented by each graph.



$-4 < x < 1$
 $x > -4$ and $x < 1$
 $2 \leq x < 7$

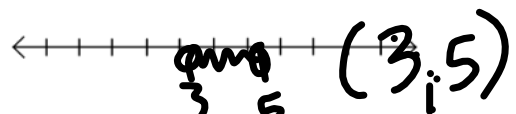


$2 > x$ or $x \geq 5$
 $x < 2$ or $5 \leq x$

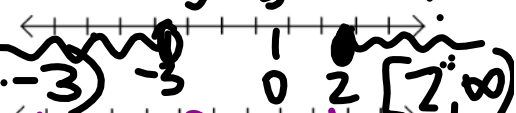


Write each sentence as an inequality. Graph the inequality and write it in interval notation.

4. All real numbers less than 5 and greater than 3



5. All real numbers less than -3 or greater than or equal to 2



6. All real numbers greater than -2 or less than -6



7. All real numbers greater than 0 and less than 4

$0 < x < 4$
 $(0, 4)$

**Problem 5** Using Interval Notation

A What is the graph of $[-4, 6)$? How do you write $[-4, 6)$ as an inequality?

hw 1.8 #s 11-18, 30 - due Wed