

Today's Plan:

Learning Target (standard): I will solve multi-step inequalities. I will write their solutions as sets and intervals. I will graph the solutions on a number line.

Students will: Complete practice problems over previous concepts at the boards, put up homework problems on the board and make necessary corrections to their own work, take notes over new material and complete practice problems over new concepts.

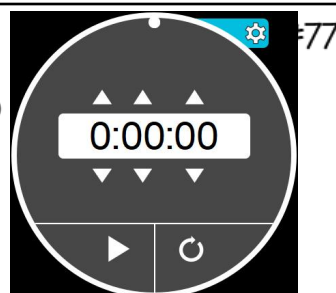
Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide examples of new concepts and assign students assessment problems over new concepts.

Assessment: Board work, homework check and homework assignment

Differentiation: Students will work at the board, go over and correct homework at their seats, actively engage in lecture over new concepts, practice new concepts with the aid of other students and the teacher and complete homework assignment.

NAME _____

BELL RINGER



1.) Write y as a function of x .

Solve for y .

$$-2x + y = 11$$

$$y = 2x + 11$$

2.) What is the slope of a vertical line?

$$m = \frac{\text{rise}}{\text{run}} = \frac{\#}{0} = \text{undefined}$$

3.) Write the next three terms of the arithmetic sequence.

3, 15, 27, 39, ...

$+12$ $+12$ $+12$

51, 63, 75

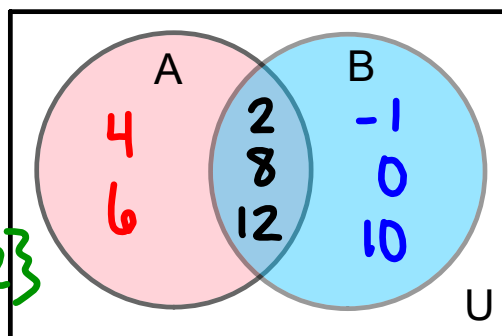
Find the union and intersection of the sets.

$$A = \{\cancel{2}, 4, 6, \cancel{8}, \cancel{12}\}$$

$$B = \{-1, 0, \cancel{2}, \cancel{8}, 10, \cancel{12}\}$$

$$A \cup B = \{-1, 0, 2, 4, 6, 8, 10, 12\}$$

$$A \cap B = \{2, 8, 12\}$$



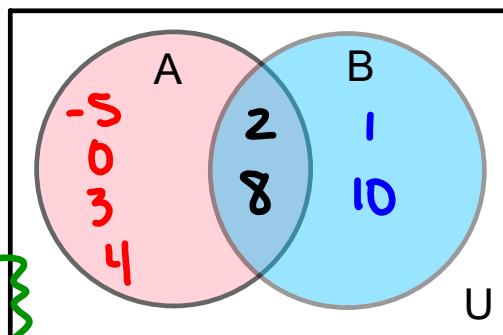
Find the union and intersection of the sets.

$$A = \{-5, 0, \cancel{2}, 3, 4, \cancel{8}\}$$

$$B = \{1, \cancel{2}, \cancel{8}, 10\}$$

$$A \cup B = \{-5, 0, 1, 2, 3, 4, 8, 10\}$$

$$A \cap B = \{2, 8\}$$



Venn Diagram:

$$U = \{-4, -2, -1, 0, 1, 2, 3, 4, 5, 6, 7, 9, 11\}$$

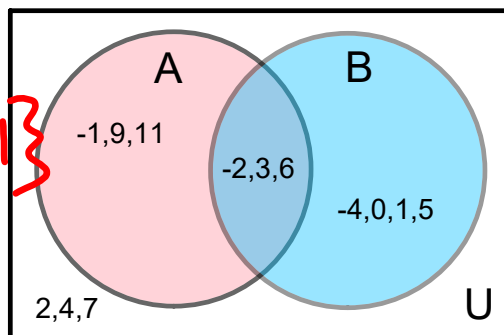
$$A = \{-2, -1, 3, 6, 9, 11\}$$

$$A - B = \{-1, 9, 11\}$$

$$B = \{-4, -2, 0, 1, 3, 5, 6\}$$

$$A \cup B = \{-4, -2, -1, 0, 1, 3, 5, 6, 9, 11\}$$

$$A \cap B = \{-2, 3, 6\}$$



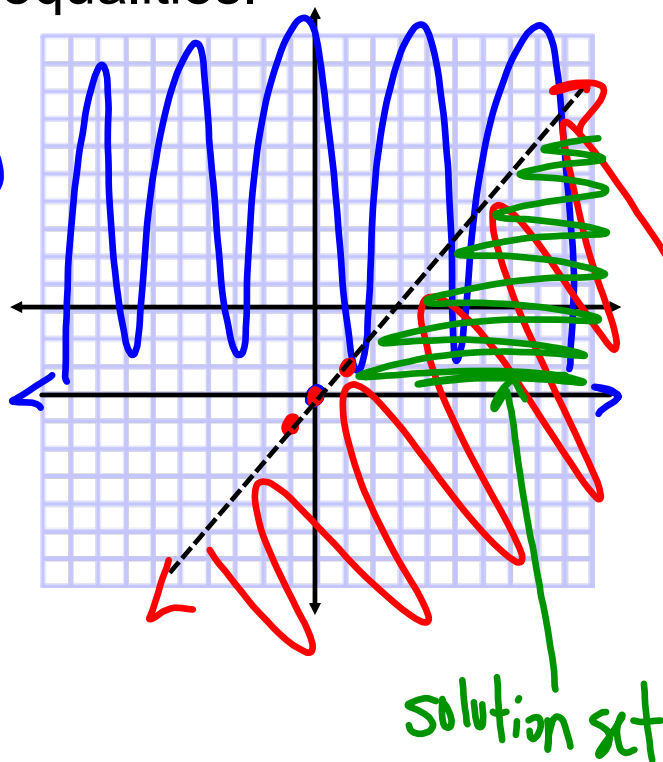
Solve the system of inequalities.

$$\textcircled{1} y \geq -3 \quad m=0$$

$$\textcircled{2} y < x - 3 \quad I_y: (0, -3)$$

$$m=1$$

$$I_y: (0, -3)$$



Solving & Graphing Linear Inequalities:

1. Solve the inequality - keep the variable on the left
2. Write the solution as a set - **set builder notation**
3. Graph the solution on a number line
4. Write the solution as an interval

$< \>$ - open circle

$\leq \& \geq$ - closed circle

Solve & graph the inequality Write the solution as a set.

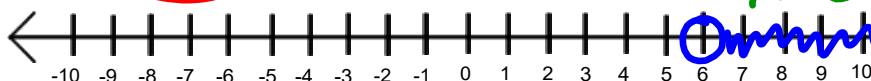
① $2x - 4 > 8$

$2x > 12$

$x > 6$

② $\{x \mid x > 6\}$

"the set of
x such that
x is greater
than 6"



Assignment:

Introduction to Inequalities

#1-10

- Solve
- Graph
- Write the solution as a set