Today's Plan:

Learning Target (standard): I will write elements in a set using the roster method and set builder notation.

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.

Solve for d :

$$L = a + d(n-1)$$

$-a \quad -a$

$$\frac{-a+L}{n-1} = \frac{d(n-1)}{n-1}$$

$$d = \frac{-a+L}{n-1}$$

Solve for y :

$$\left[5x+\frac{2y}{3}=4\right]3$$

$$15x+2y=12$$
$$-15x \qquad -15x$$

$$\frac{2y}{2}=\frac{-15x}{2}+\frac{12}{2}$$

$$y=-\frac{15}{2}x+6$$

Write in set form. Choose the method that makes the most sense.

- set of whole numbers between and including -4 to 5

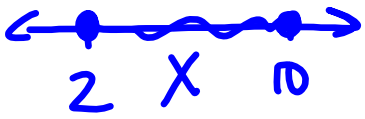
$$\{0,1,2,3,4,5\}$$

- set of natural numbers less than 7, but greater than 2

$$\{3,4,5,6\}$$

Write in set form. Choose the method that makes the most sense.

- set of real numbers between and including 2 to and 10



$\{x \mid 2 \le x \le 10, x \in \mathbb{R}\}$

- set of integers greater than -2 and less than or equal to 5

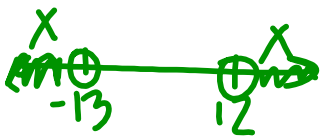
$\{-1, 0, 1, 2, 3, 4, 5\}$

Write in set form. Choose the method that makes the most sense.

- set of rational numbers greater than 3 and less than or equal to 9

$\{x \mid 3 < x \le 9, x \in \mathbb{Q}\}$

- set of real numbers less than -13, but greater than 12



$\{x \mid x < -13, x > 12, x \in \mathbb{R}\}$

set builder
- too many

roster - "countable"
- 10 or less

* if the numbers are real, cut the last part

$\{x \mid x < -13, x > 12\}$

Operations on Sets: "together" – "or"

- The union of two or more sets is the set of elements in either set A or set B or both

$A = \{-2, 3, 4, 5, 8, 9\}$

$B = \{1, 3, 5, 6, 7\}$

$A \cup B = \{-2, 1, 3, 4, 5, 6, 7, 8, 9\}$

Operations on Sets: "overlap" – "and"

- The intersection of two or more sets is the set of elements in both set A and set B

$A = \{-2, 3, 4, 5, 8, 9\}$

$B = \{1, 3, 5, 6, 7\}$

$A \cap B = \{3, 5\}$

Find the union and intersection of the sets.

$A = \{-2, 0, 1, 8, 9, 10\}$

$B = \{-3, -2, -1, 0, 2, 8, 10, 12\}$

$A \cup B = \{-3, -2, -1, 0, 1, 2, 8, 9, 10, 12\}$

$A \cap B = \{-2, 0, 8, 10\}$

Find the union and intersection of the sets.

$A = \{-1, 1, 2, 3, 4, 5\}$

$B = \{-2, -1, 0, 3, 5, 6, 8\}$

$A \cup B = \{-2, -1, 0, 1, 2, 3, 4, 5, 6, 8\}$

$A \cap B = \{-1, 3, 5\}$

Find the union and intersection of the sets.

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

$B = \{0,1,3,5,7\}$

$A \cup B = \{0,1,2,3,4,5,6,7,8\}$

$A \cap B = \emptyset$

Assignment:

p.29 #2-32 even

Write the original sets