

Today's Plan:

Learning Target (standard): I will determine the union and intersection of two sets through set builder notation and graphically.

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.

p.29 #2-32 even

$$2) \{-3, -2, -1\}$$

$$4) \{1, 3, 5, 7, 9, 11\}$$

$$6) \{31, 37\}$$

$$8) \{1, 4, 9, 16, 25, 36, 49, 64, 81\}$$

$$10) \{x \mid x < -2, x \in \mathbb{Z}\}$$

$$12) \{x \mid x \leq -3\}$$

$$14) \{x \mid -5 < x < 2, x \in \mathbb{Z}\}$$

$$16) \{x \mid -2 < x < 4\}$$

$$18) A \cup B = \{-1, 0, 1, 2\}$$

$$20) A \cup B = \{1, 2, 3, 4, 5, 6, 7, 8\}$$

$$22) A \cup B = \{-3, -2, -1, 0, 1\}$$

$$24) A \cup B = \{0, 1, 2, 3, 4, 5\}$$

$$26) A \cap B = \{0\}$$

$$28) A \cap B = \{-5, 0, 7\}$$

$$30) A \cap B = \emptyset \text{ "empty set"}$$

$$32) A \cap B = \{1, 9\}$$

Solve for y :

$$\begin{array}{r} -4x + 3y = 7 \\ +4x \quad - \quad +4x \end{array}$$

$$\frac{3y}{3} = \frac{4x+7}{3}$$

$$y = \frac{4}{3}x + \frac{7}{3}$$

Solve for y :

$$\begin{array}{r} 2x - 5y = 14 \\ -2x \quad -2x \end{array}$$

$$\frac{-5y}{-5} = \frac{-2x+14}{-5}$$

$$y = \frac{2}{5}x - \frac{14}{5}$$

Solve.

$$-2\left(\frac{2}{3}v - 1\right) = 2\left(v - \frac{13}{5}\right)$$

$$\left[-\frac{4}{3}v + 2 = 2v - \frac{26}{5}\right] \cdot 15$$

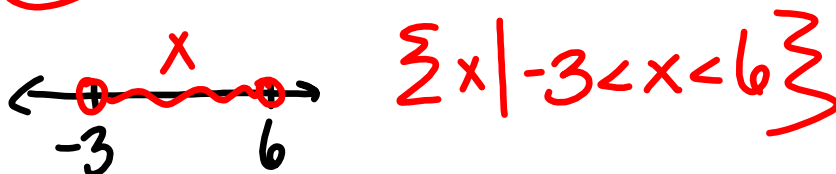
$$-20v + 30 = 30v - 78$$

$$\frac{-50v}{-50} = \frac{-108}{-50}$$

$$v = \frac{54}{25}$$

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

- set of real numbers between -3 and 6



- set of integers greater than 4 and less than or equal to 11

$$\{5, 6, 7, 8, 9, 10, 11\}$$

Find the union and intersection of the sets.

$$A = \{2, 4, 6, 8, 12, 15\}$$

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

$$A \cup B = \{-3, -2, -1, 0, 2, 4, 6, 8, 10, 12, 15\}$$

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

Find the union and intersection of the sets.

$$A = \{-5, 0, 2, 3, 4, 6, 7, 8\}$$

$$B = \{1, 2, 6, 8, 9, 10\}$$

$$A \cup B = \{-5, 0, 1, 2, 3, 4, 6, 7, 8, 9, 10\}$$

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

Operations on Sets: "together"

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

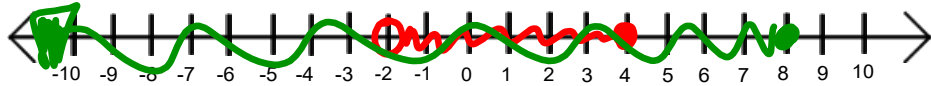
$$A = \{x \mid -2 < x \leq 4\}$$

X = "shading"

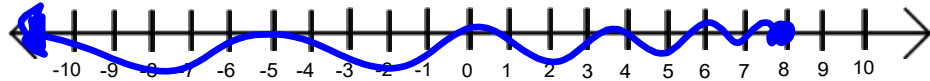
< - open

$$B = \{x \mid x \leq 8\}$$

≤ - closed



$$A \cup B$$



$$A \cup B = \{x \mid x \leq 8\}$$

Operations on Sets: "overlap", "and"

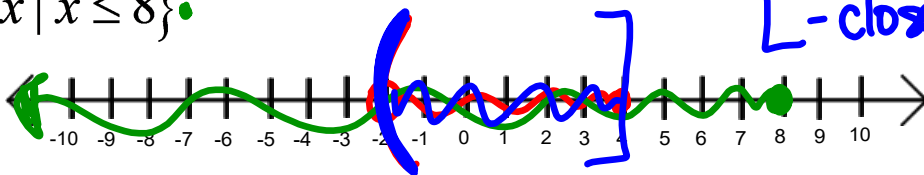
- The **intersection** of two or more sets is the set of elements in both set A and set B

$$A = \{x \mid -2 < x \leq 4\}$$

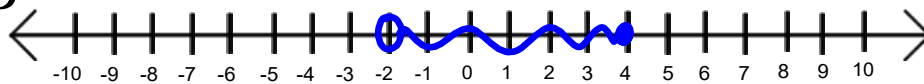
$$B = \{x \mid x \leq 8\}$$

(- open

[- closed



$$A \cap B$$

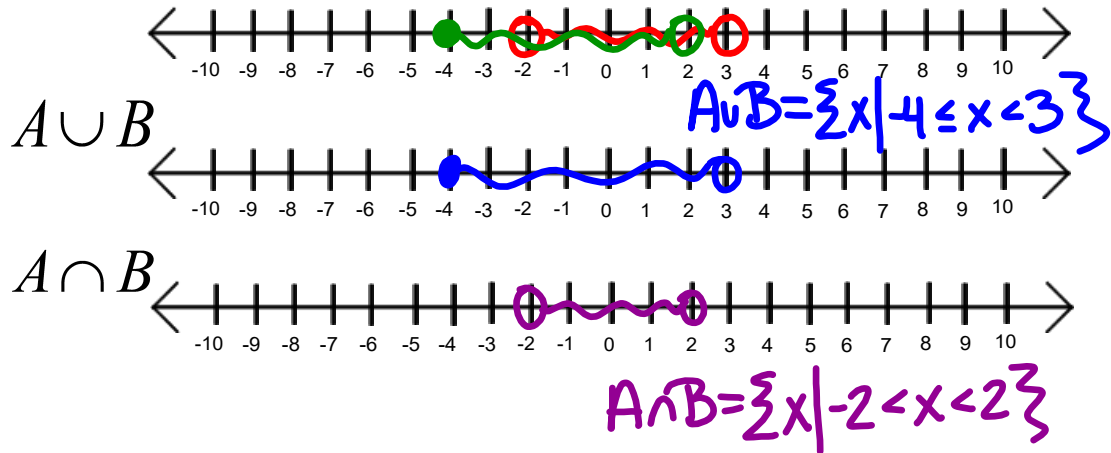


$$A \cap B = \{x \mid -2 < x \leq 4\}$$

Graph and write the union and intersection of the given sets:

$$A = \{x \mid -2 < x < 3\}$$

$$B = \{x \mid -4 \leq x < 2\}$$



Assignment:

Operations on Sets Worksheet

#1-20