Today's Plan:

Learning Target (standard): I will solve combined 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, and take a quiz.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, and provide quiz problems.

Assessment: Board work, homework check and quiz

Differentiation: Students will work at the board, go over and correct homework at their seats, actively engage in quiz problems.

NAME _____ #84

BELL RINGER

1.) Find the product $-4w(w - 3)$.

$-4w^2 + 12w$

2.) Evaluate $-3x^3 - 2x^2 + 7$ when $x = -1$.

$-3(-1)^3 - 2(-1)^2 + 7$ $3 - 2 + 7 = 8$

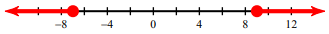
$-3(1) - 2(1) + 7$

3.) Is the relation $\{(-2, 1), (3, 9), (-2, 2), (-3, -1)\}$ a function? Explain your answer.

No $x = -2$ $y = 1$ $y = 2$

Solve each compound inequality and graph its solution.

1) $7 + 4x \geq 43$ or $3x - 2 \leq -23$



$x \geq 9$ or $x \leq -7$ $\{x \mid x \leq -7, x \geq 9\}$

$(-\infty, -7] \cup [9, \infty)$

2) $-5 - 4n \geq 7$ and $9n - 5 > -95$

$-10 < n \leq -3$ $\{n \mid -10 < n \leq -3\}$

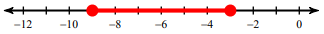
$(-10, -3]$

3) $-9x - 6 < -51$ or $5 + 4x \leq 21$

$x > 5$ or $x \leq 4$ $\{x \mid x \leq 4, x > 5\}$

$(-\infty, 4] \cup (5, \infty)$

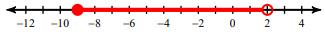
4) $9 + 3b \leq 0$ and $9b - 7 \geq -88$



$-9 \leq b \leq -3$ $\{b \mid -9 \leq b \leq -3\}$

$[-9, -3]$

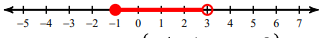
5) $-54 \leq 5x - 9 < 1$



$-9 \leq x < 2$ $\{x \mid -9 \leq x < 2\}$

$[-9, 2)$

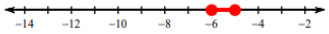
6) $6 \leq 9 + 3n < 18$



$-1 \leq n < 3$ $\{n \mid -1 \leq n < 3\}$

$[-1, 3)$

7) $-34 \leq 8 + 7x \leq -27$



$-6 \leq x \leq -5$ $\{x \mid -6 \leq x \leq -5\}$

$[-6, -5]$

8) $7 \leq -5x + 7 < 27$

$-4 < x \leq 0$ $\{x \mid -4 < x \leq 0\}$

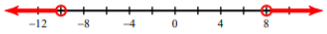
$(-4, 0]$

9) $5 + r \geq 1$ and $-3r - 1 > 5$

$-4 \leq r < -2$ $\{r \mid -4 \leq r < -2\}$

$[-4, -2)$

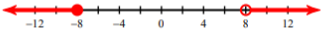
10) $-5x + 3 > 53$ or $-x - 8 < -16$



$x < -10$ or $x > 8$ $\{x \mid x < -10, x > 8\}$

$(-\infty, -10) \cup (8, \infty)$

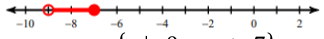
11) $-2n - 6 < -22$ or $4n - 4 \leq -36$



$n > 8$ or $n \leq -8$ $\{n \mid n \leq -8, n > 8\}$

$(-\infty, -8] \cup (8, \infty)$

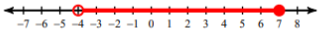
12) $65 \leq -10a - 5 < 85$



$-9 < a \leq -7$ $\{a \mid -9 < a \leq -7\}$

$(-9, -7]$

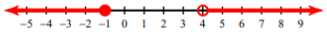
13) $9k - 2 \leq 61$ and $5k + 7 > -13$



$-4 < k \leq 7$ $\{k \mid -4 < k \leq 7\}$

$(-4, 7]$

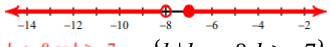
14) $5 - 6x < -19$ or $4 - 4x \geq 8$



$x > 4$ or $x \leq -1$ $\{x \mid x \leq -1, x > 4\}$

$(-\infty, -1] \cup (4, \infty)$

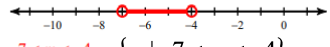
15) $-10b - 2 > 78$ or $2b + 2 \geq -12$



$b < -8$ or $b \geq -7$ $\{b \mid b < -8, b \geq -7\}$

$(-\infty, -8) \cup [-7, \infty)$

16) $-34 < 4m - 6 < -22$



$-7 < m < -4$ $\{m \mid -7 < m < -4\}$

$(-7, -4)$

Solve. Write the solution as a set and interval.

$3n-1\le -5$ or $5\le 3n-1$

① $3n\le -4$, $n\le -\frac{4}{3}$

$-3n+5\le -1$, $-3n\le -6$, $n\ge 2$

② 

③ $\{n \mid n\le -\frac{4}{3}, n\ge 2\}$

④ $(-\infty, -\frac{4}{3}] \cup [2, \infty)$

Solve. Write the solution as a set and interval.

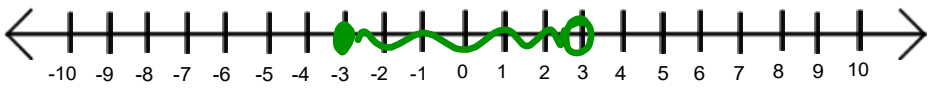
$-5<1-2x\le 7$

① $-6<-2x\le 6$

$3>x\ge -3$

$-3\le x<3$

② $\{x \mid -3\le x<3\}$

③ 

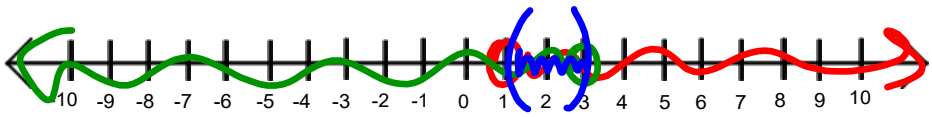
④ $[-3, 3)$

Solve. Write the solution as a set and interval.

$5 - x < 4$ and $3x - 2 < 7$

① $-x < -1$ $\quad 3x < 9$

$x > 1$ $\quad x < 3$

② 

③ $\{x \mid 1 < x < 3\}$

④ $(1, 3)$