Algebra 1R Extra Credit !! Name _____

Comp Inequal & Absolute Value Inequal Review

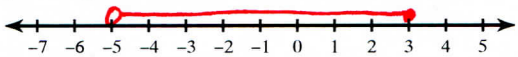
Date _____ Period ____

Solve each compound inequality and graph its solution.

1) $-1 < \frac{x}{3} \leq 2$

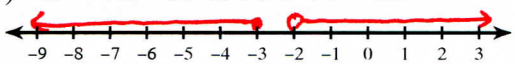
$\{x \mid -3 < x \leq 6\}$

2) $1 < p + 6 \leq 9$



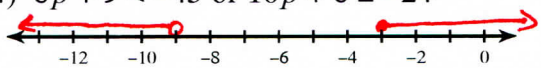
$\{p \mid -5 < p \leq 3\}$

3) $4b - 4 \leq -16$ or $7b + 4 > -10$



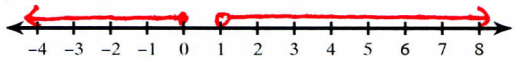
$\{b \mid b \leq -3 \text{ or } b > -2\}$

4) $6p + 9 < -45$ or $10p + 6 \geq -24$



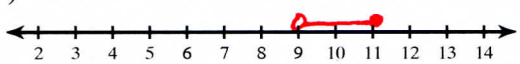
$\{p \mid p < -9 \text{ or } p \geq -3\}$

5) $k - 5 > -4$ or $-10k - 6 \geq -6$



$\{k \mid k \leq 0 \text{ or } k > 1\}$

6) $109 < 12m + 1 \leq 133$

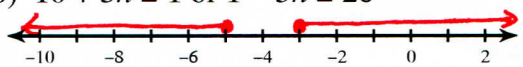


$\{m \mid 9 < m \leq 11\}$

7) $6x + 12 > -60$ and $9 + 12x \leq 81$

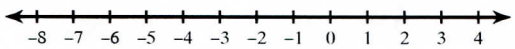
$\{x \mid -12 < x \leq 6\}$

8) $10 + 3n \geq 1$ or $1 - 5n \geq 26$



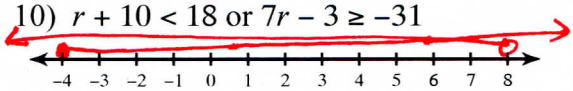
$\{n \mid n \leq -5 \text{ or } n \geq -3\}$

9) $7 \leq -2 + 3n < -8$



No Solution ; $\{\emptyset\}$

10) $r + 10 < 18$ or $7r - 3 \geq -31$



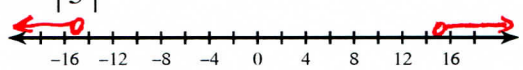
All Real #'s ; $\{r \mid r \in R\}$

Solve each inequality and graph its solution.

11) $|n - 1| \leq 3$

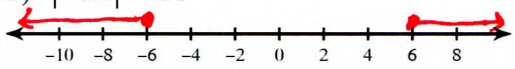
$\{n \mid -2 \leq n \leq 4\}$

12) $\left|\frac{x}{5}\right| > 3$



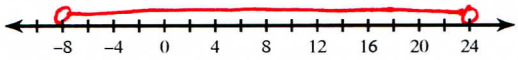
$\{x \mid x < -15 \text{ or } x > 15\}$

13) $|-5k| \geq 30$



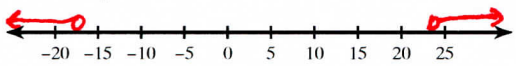
$\{k \mid k \leq -6 \text{ or } k \geq 6\}$

14) $\dfrac{|x-8|}{4} < 4$



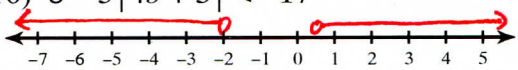
$\{x \mid -8 < x < 24\}$

15) $\dfrac{|-3+v|}{7} > 3$



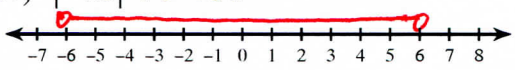
$\{v \mid v < -18 \text{ or } v > 24\}$

16) $8 - 5|4b+3| < -17$



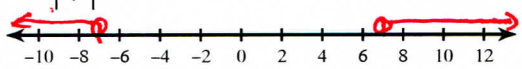
$\{b \mid b < -2 \text{ or } b > \frac{1}{2}\}$

17) $|-7n| + 9 < 51$



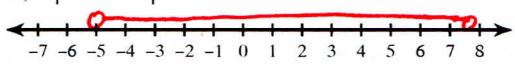
$\{n \mid -6 < n < 6\}$

18) $\left|\dfrac{r}{7}\right| - 3 > -2$



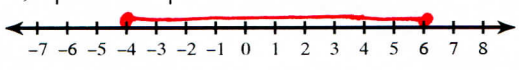
$\{r \mid r < -7 \text{ or } r > 7\}$

19) $|9x - 8| < 53$



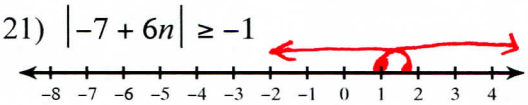
$\{x \mid -5 < x < \frac{61}{8}\}$

20) $|-6k + 6| \leq 30$



$\{k \mid -4 \leq k \leq 6\}$

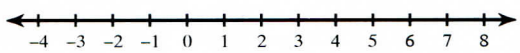
21) $|-7 + 6n| \geq -1$



All Real #'s

$\{n \mid n \in R\}$

22) $6\left|\dfrac{x}{3}\right| \leq -4$



no solution

$\{\emptyset\}$

Solve each equation.

23) Mrs. Berman feels the temperature in the room should be 70 degrees. The actual temperature varies by as much as 6 degrees. Write and solve an absolute value inequality to find the range of possible temperatures. Identify the minimum and the maximum.

$|x - 70| \leq 6$; The range of possible temperature is between 76° and 64°.

Max. Temp. is 76°, Min Temp. is 64°.