Name_____

ABSOLUTE VALUE INEQUALITIES #3

Directions: Solving *absolute value inequalities* requires two different strategies. To solve absolute value inequalities with a "greater than" symbol, you should split the problem into two separate inequalities, like solving an absolute value equation. This strategy is demonstrated in Example 1. For inequalities with a "less than" symbol, you can solve the two inequalities at the same time, as shown in Example 2.

Example 1: $|x+7|>10$

x + 7 < -10 or x + 7 > 10 (subtract 7 from both sides)

x < -17 or **x > 3**

$|x+4|<10$

-10 < x + 4 < 10 (subtract 4 from each part)

-14 < x < 6

1) $|2x+5|<21$

2) $|8x+8|>40$

3) $|2x+7|\leq 13$

4) $|15+5x|<50$

5) $\left|\frac{x}{4}+2\right|\geq 12$

6) $|4x+12|<36$

7) $|x+1|\leq 19$

8) $|2x-6|>12$

9) $|9x-27|<36$