

Name : \_\_\_\_\_

Date : \_\_\_\_\_

## Absolute Value Linear Inequalities

Solve the given inequalities.

①  $|n + 10| > 19$

②  $3|10m + 4| - 1 \geq 41$

③  $|x - 4| > |4 - x|$

④  $3\left|\frac{1}{2}x + 2\right| + 6 < 15$

⑤  $-5|2x + 2| - 3 \geq -3$

⑥  $|k| - 6 \leq -1$

⑦  $-3 - 4|-2x - 5| \geq -7$

⑧  $-10 + \frac{1}{2}|x - 4| \geq -10$

⑨  $2|k + 9| \geq 28$

⑩  $|4k - 10| - 8 > 18$

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## Absolute Value Linear Inequalities

### Answers

1  $|n + 10| > 19$

$n < -29$  or  $n > 9$

3  $|x - 4| > |4 - x|$

No solution

5  $-5|2x + 2| - 3 \geq -3$

$x = -1$

7  $-3 - 4|-2x - 5| \geq -7$

$-3 \leq x \leq -2$

9  $2|k + 9| \geq 28$

$k \leq -23$  or  $k \geq 5$

2  $3|10m + 4| - 1 \geq 41$

$m \leq -\frac{9}{5}$  or  $m \geq 1$

4  $3\left|\frac{1}{2}x + 2\right| + 6 < 15$

$-10 < x < 2$

6  $|k| - 6 \leq -1$

$-5 \leq k \leq 5$

8  $-10 + \frac{1}{2}|x - 4| \geq -10$

$x \geq 4$  or  $x \leq 4$

10  $|4k - 10| - 8 > 18$

$k < -4$  or  $k > 9$