

## Absolute Value Equations and Inequalities Extra Practice

Date \_\_\_\_\_

**Solve each equation.**

1)  $-10|2x| = -100$

2)  $|-5r| - 5 = 5$

3)  $|x + 1| + 5 = 10$

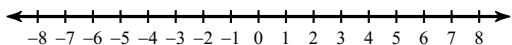
4)  $5|p - 5| = 5$

5)  $7|8x + 8| = 112$

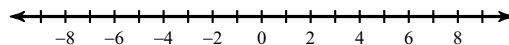
6)  $4|10b| - 7 = 73$

**Solve each inequality and graph its solution.**

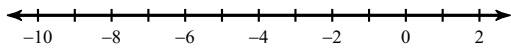
7)  $|x| > 5$



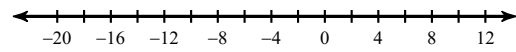
8)  $|a| > 4$



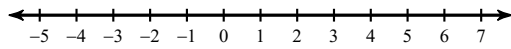
$$9) |4 + x| \leq 2$$



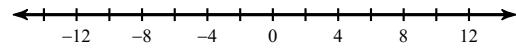
$$10) |r + 5| \geq 13$$



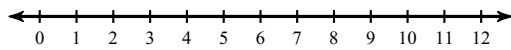
$$11) |k| - 10 > -8$$



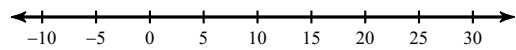
$$12) -2|p| \leq -20$$



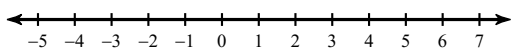
$$13) |x - 6| - 9 \geq -7$$



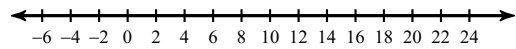
$$14) |a - 10| - 4 < 14$$



$$15) 10 \left| \frac{a}{10} \right| < 1$$



$$16) |v - 9| - 10 \leq 4$$

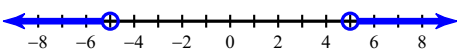


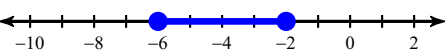
## Answers to Absolute Value Equations and Inequalities Extra Practice

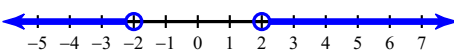
1)  $\{5, -5\}$

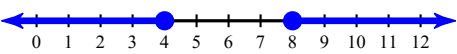
3)  $\{4, -6\}$

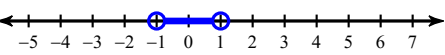
5)  $\{1, -3\}$

7)  $x > 5$  or  $x < -5$  : A number line from -8 to 8 with tick marks every 1 unit. Open circles are placed at -5 and 5. Blue arrows point outwards from these circles, representing the solution set  $x < -5$  or  $x > 5$ .

9)  $-6 \leq x \leq -2$  : A number line from -10 to 2 with tick marks every 1 unit. Closed circles are placed at -6 and -2. A blue line segment connects these two circles, representing the solution set  $-6 \leq x \leq -2$ .

11)  $k > 2$  or  $k < -2$  : A number line from -5 to 7 with tick marks every 1 unit. Open circles are placed at -2 and 2. Blue arrows point outwards from these circles, representing the solution set  $k < -2$  or  $k > 2$ .

13)  $x \geq 8$  or  $x \leq 4$  : A number line from 0 to 12 with tick marks every 1 unit. Closed circles are placed at 4 and 8. Blue arrows point outwards from these circles, representing the solution set  $x \leq 4$  or  $x \geq 8$ .

15)  $-1 < a < 1$  : A number line from -5 to 7 with tick marks every 1 unit. Open circles are placed at -1 and 1. A blue line segment connects these two circles, representing the solution set  $-1 < a < 1$ .