

## Review: Absolute Value Equations and Inequalities Date \_\_\_\_\_ Period \_\_\_\_\_

**Solve each equation.**

1)  $|x| = 7$

2)  $|x| = -1$

3)  $|b + 3| = 11$

4)  $|-9x| = 72$

5)  $|3x - 8| = 0$

6)  $|4 + 7x| = 4$

7)  $|x| - 9 = -2$

8)  $-9|n - 7| = -18$

$$9) |4 + k| + 1 = 7$$

$$10) -6 - 2|b| = -8$$

$$11) 2|-5n| - 2 = 38$$

$$12) 9 - 8|r - 5| = 25$$

$$13) \frac{|6k + 6|}{10} = -1$$

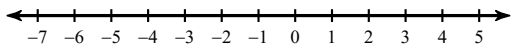
$$14) 6 + |4x + 2| = 20$$

$$15) 5|8n + 6| - 4 = 106$$

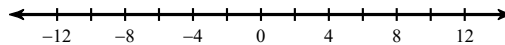
$$16) 4 - |5x - 9| = -40$$

Solve each inequality and graph its solution.

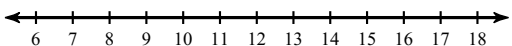
17)  $|n| \geq 2$



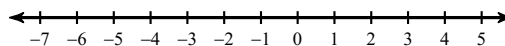
18)  $|m| \leq 10$



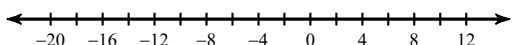
19)  $|x - 8| \leq 1$



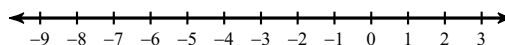
20)  $|6b + 9| \leq 27$



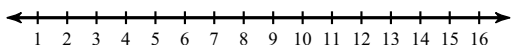
21)  $8 + |a + 4| \geq 22$



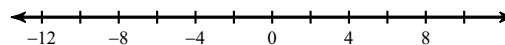
22)  $|m + 4| + 2 \leq 5$



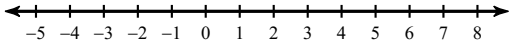
23)  $5|9 - x| > 15$



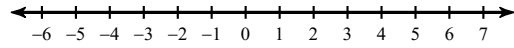
24)  $|1 - 6b| + 2 \geq 51$



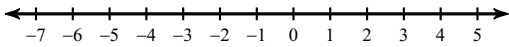
$$25) 8|2m - 5| - 7 < -63$$



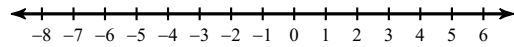
$$26) -9|4n - 8| - 7 < 65$$



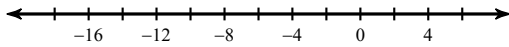
$$27) 6|m| - 5 < 13$$



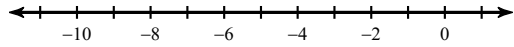
$$28) |-2a| - 6 > 0$$



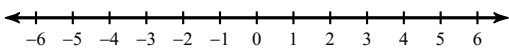
$$29) 10 - 4|a + 6| < -30$$



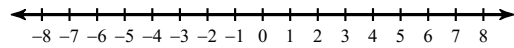
$$30) 8|7n + 7| - 4 \leq 52$$



$$31) \frac{|5x - 7|}{10} \leq -3$$



$$32) -5|1 - 6k| \leq 85$$



## Review: Absolute Value Equations and Inequalities Date \_\_\_\_\_ Period \_\_\_\_\_

**Solve each equation.**

1)  $|x| = 7$

 $\{7, -7\}$ 

2)  $|x| = -1$

No solution.

3)  $|b + 3| = 11$

 $\{8, -14\}$ 

4)  $|-9x| = 72$

 $\{-8, 8\}$ 

5)  $|3x - 8| = 0$

 $\left\{\frac{8}{3}\right\}$ 

6)  $|4 + 7x| = 4$

 $\left\{0, -\frac{8}{7}\right\}$ 

7)  $|x| - 9 = -2$

 $\{7, -7\}$ 

8)  $-9|n - 7| = -18$

 $\{9, 5\}$

$$9) |4 + k| + 1 = 7$$

$$\{2, -10\}$$

$$10) -6 - 2|b| = -8$$

$$\{1, -1\}$$

$$11) 2|-5n| - 2 = 38$$

$$\{-4, 4\}$$

$$12) 9 - 8|r - 5| = 25$$

No solution.

$$13) \frac{|6k + 6|}{10} = -1$$

No solution.

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

$$15) 5|8n + 6| - 4 = 106$$

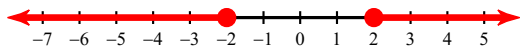
$$\left\{2, -\frac{7}{2}\right\}$$

$$16) 4 - |5x - 9| = -40$$

$$\left\{\frac{53}{5}, -7\right\}$$

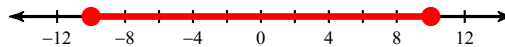
Solve each inequality and graph its solution.

17)  $|n| \geq 2$



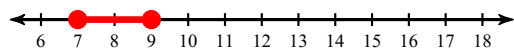
$n \geq 2$  or  $n \leq -2$

18)  $|m| \leq 10$



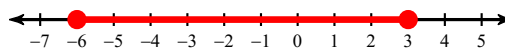
$-10 \leq m \leq 10$

19)  $|x - 8| \leq 1$



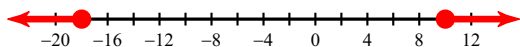
$7 \leq x \leq 9$

20)  $|6b + 9| \leq 27$



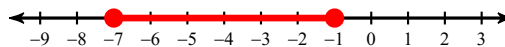
$-6 \leq b \leq 3$

21)  $8 + |a + 4| \geq 22$



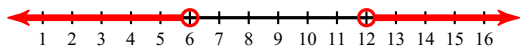
$a \geq 10$  or  $a \leq -18$

22)  $|m + 4| + 2 \leq 5$



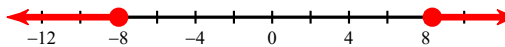
$-7 \leq m \leq -1$

23)  $5|9 - x| > 15$



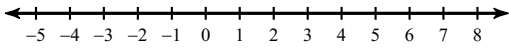
$x < 6$  or  $x > 12$

24)  $|1 - 6b| + 2 \geq 51$



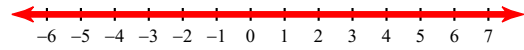
$b \leq -8$  or  $b \geq \frac{25}{3}$

$$25) 8|2m - 5| - 7 < -63$$



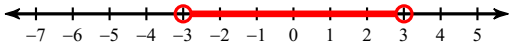
No solution.

$$26) -9|4n - 8| - 7 < 65$$



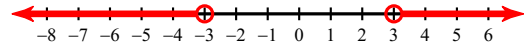
{ All real numbers. }

$$27) 6|m| - 5 < 13$$



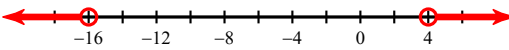
$-3 < m < 3$

$$28) |-2a| - 6 > 0$$



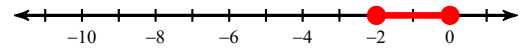
$a < -3$  or  $a > 3$

$$29) 10 - 4|a + 6| < -30$$



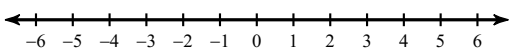
$a > 4$  or  $a < -16$

$$30) 8|7n + 7| - 4 \leq 52$$



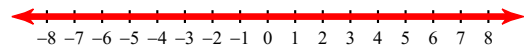
$-2 \leq n \leq 0$

$$31) \frac{|5x - 7|}{10} \leq -3$$



No solution.

$$32) -5|1 - 6k| \leq 85$$



{ All real numbers. }