

Unit 1.10 Worksheet Solving Absolute value Equations and Inequalities Period _____

Solve each equation.

1) $|n| = -3$

No solution.

2) $|x| = 4$

 $\{4, -4\}$

3) $|m| + 4 = 7$

 $\{3, -3\}$

4) $|n| + 4 = 0$

No solution.

5) $-4|p| - 3 = -11$

 $\{2, -2\}$

6) $3 + 2|x| = 3$

 $\{0\}$

7) $|4x| = 12$

 $\{3, -3\}$

8) $|v + 4| = 8$

 $\{4, -12\}$

9) $|-4r| - 1 = -13$

No solution.

10) $2|x - 1| = 6$

 $\{4, -2\}$

11) $2|4n| + 4 = 12$

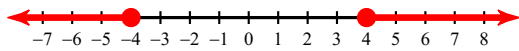
 $\{1, -1\}$

12) $2 - |a + 2| = 1$

 $\{-1, -3\}$

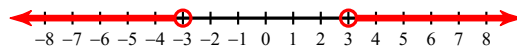
Solve each inequality. Graph its solution. Write the interval notation.

13) $|a| \geq 4$



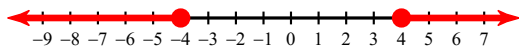
$a \geq 4$ or $a \leq -4$

14) $-4 + |n| > -1$



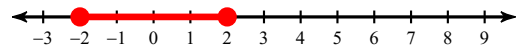
$n > 3$ or $n < -3$

15) $-2 + |n| \geq 2$



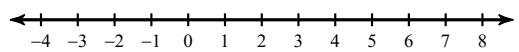
$n \geq 4$ or $n \leq -4$

16) $4|n| + 2 \leq 10$



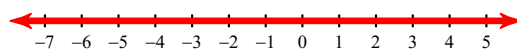
$-2 \leq n \leq 2$

17) $-3|x| + 4 > 10$



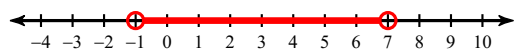
No solution.

18) $|2v| \geq -12$



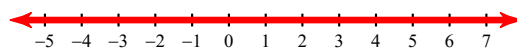
{ All real numbers. }

19) $3 - 2|a - 3| > -5$



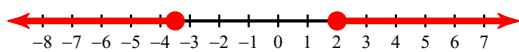
$-1 < a < 7$

20) $|x - 2| - 2 > -9$



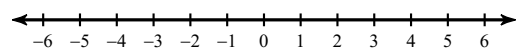
{ All real numbers. }

21) $|-3 - 4x| \geq 11$



$x \leq -\frac{7}{4}$ or $x \geq 2$

22) $|-n + 1| + 4 \leq 1$



No solution.