

Absolute Value Equations & Inequalities WS

Name _____

Solve each equation. Check for extraneous solutions.

1. $|x + 2| = -x + 4$

2. $|x - 4| + 3 = 2x + 1$

3. $|2x + 1| = x + 2$

4. $|x - 3| - 7 = 12x$

5. $|x + 4| - 6 = 3x + 14$

6. $|x - 2| = 3x - 7$

Solve each inequality. Write answers in interval notation.

7. $7|-7 - n| + 5 \leq 54$

8. $-9|10 + 6x| + 4 > -14$

9. $2|2x - 3| + 4 > 2x$

10. $-\frac{1}{2}|4 - x| + 1 \leq x + 3$

11. $3|\frac{1}{2} - x| - 3 \leq 15x$

12. $-2|5 - 3x| + 3 \geq 4x - 5$