Name: _____ **Date:**_____

Absolute Value Practice

Solve each equation. Check for extraneous solutions.

1. $|x - 3| = -1$

2. $|x + 7| = 2x + 8$

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

4. $|3y + 5| - 2y = 13y + 4$

5. $-|5x + 3| = 63$

6. $\frac{2}{3}|x - 6| = 4x + 6$

Solve each inequality. Graph the solutions.

7. $-3|7x - 8| < 5$

8. $|k - 3| \leq 19$

9. $|x + 2| \geq 0$

10. $5|3t - 7| + 4 > 29$

11. $|3x - 2| + 7 \geq 11$

12. $5|2b + 1| - 3 \leq 7$

Solve each equation for x. State any restrictions.

13. $3x - n = 2x + n$

14. $ax + b = cx + d$

15. $a(x - 4) + 2 = b(x - 2)$

16. $\frac{x+k}{j} = \frac{3}{4}$

17. $\frac{a-3x}{b} + 4 = a + y$

18. $c(x - 3) + dx = 9 + x$

19. The sides of a quadrilateral is in the ration 3 : 5 : 6 : 9. The perimeter is 150 cm. Find the lengths of the sides.

20. A real estate agent earns a salary of $2000 per month plus 4% of the sales. Find the sales if the salesperson is to have a monthly income of at least $5000

21. Find three consecutive multiples of 3 such that the sum of the first and third is 72.