Name _____ Date _____ Class _____

LESSON 2-8

Practice B

Solving Absolute-Value Equations and Inequalities

Solve each equation.

1. $|2x + 1| = 7$

2. $|-7x| = 28$

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

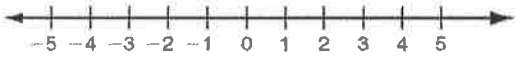
4. $|2x - 5| = 5$

5. $2|x + 1| = 14$

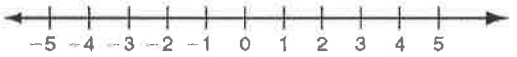
6. $|4 - x| + 2 = 9$

Solve each inequality or compound inequality. Then graph the solution.

7. $-4x + 2 > -10$ and $5x - 12 < 8$

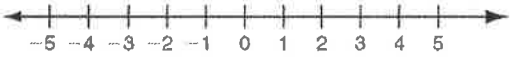


8. $3x - 4 \geq 8$ or $-x + 12 > 16$

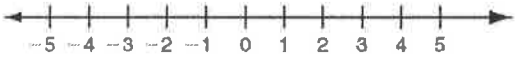


9. $|9x| \geq 18$

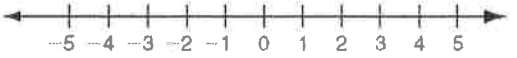
10. $|3x - 7| > 8$



11. $|0.3x| > 1$



12. $|7x| - 12 \leq 9$



Solve.

13. Any measurement is accurate within ±0.5 of the measurement unit. For example, if you measure your pencil to the nearest inch, your measurement could be 0.5 inch too long or 0.5 inch too short. Write an absolute-value inequality that shows the maximum and minimum actual measure of a nail measured to be 4.4 centimeters to the nearest 0.1 centimeter.

Name _____ Date _____ Class _____

LESSON 2-8

Practice C

Solving Absolute-Value Equations and Inequalities

Solve each equation.

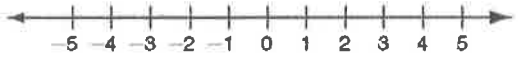
1. $|2x - 3| = 15$

2. $\frac{1}{2}|x + 9| = 1$

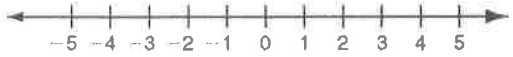
3. $11 - |4 - x| = 4$

Solve and graph.

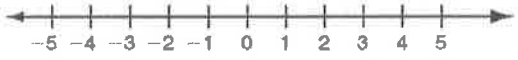
4. $5(7 - 2x) < 40$ and $5x + 2 < 12$



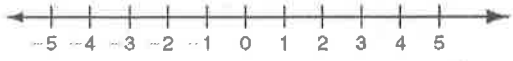
5. $\frac{7x - 10}{6} \leq 3$ or $3x + 2 > 5x - 8$



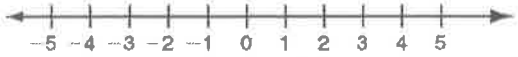
6. $\left|\frac{4x - 1}{6}\right| \geq 1$



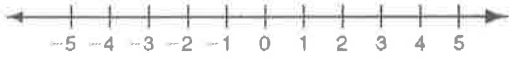
7. $-3|5x - 2| < -12$



8. $2|3x - 6| + 6 \geq 24$



9. $\frac{|9x + 1|}{4} < 2$



Solve.

10. Ben says that there is no solution for this absolute-value inequality. Is he correct? If not, solve the inequality. Explain how you know you are correct.

$$32 + \frac{|x - 7|}{13} < 7$$