

GUIDED PRACTICE

1. **Vocabulary** A graph of an inequality on a number line with two parts is a .
(conjunction, disjunction)

SEE EXAMPLE 1 Solve each compound inequality. Then graph the solution set.

p. 150 2. $x - 7 > -3$ OR $5x \leq -15$ 3. $3x \leq 18$ AND $x + 4 > 2$ 4. $x - 2 > -5$ OR $5x \geq 25$

SEE EXAMPLE 2 Solve each equation.

p. 152 5. $|x + 5| = 2$ 6. $|2x| - 6 = 4$ 7. $|-x| + 4 = 7$

SEE EXAMPLE 3 Solve each inequality. Then graph the solution set.

p. 152 8. $|2x - 3| \geq 5$ 9. $2|x - 3| > 8$ 10. $|3x| + 8 > 5$

SEE EXAMPLE 4 11. $\frac{|4x + 8|}{3} < 8$ 12. $|9 - 3x| \leq 6$ 13. $-5|x - 3| \geq 15$

p. 153

PRACTICE AND PROBLEM SOLVING

Independent Practice

For Exercises	See Example
14–15	1
16–19	2
20–23	3
24–27	4

Solve each compound inequality. Then graph the solution set.

14. $2x - 3 \geq 7$ OR $x + 5 < 2$ 15. $3x + 6 \leq 21$ AND $4x - 2 \geq -6$

Solve each equation.

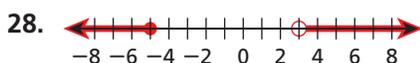
16. $|-3x| = 9$ 17. $|x + 7| = 2$ 18. $|3x - 9| = 6$ 19. $5|2x| - 6 = 24$

Solve each inequality. Then graph the solution set.

20. $|-2x| < 2$ 21. $|x + 5| \geq 2$ 22. $|8x| + 56 \geq 40$ 23. $|7x + 14| \geq 35$

24. $|-0.5x| > 1$ 25. $6|2x + 5| > 66$ 26. $-8|x + 4| > 48$ 27. $\frac{|8x + 4|}{6} < 10$

Write a compound inequality for each graph.



Solve and graph.

32. $5x - 9 > 11$ AND $7x + 12 \leq 61$ 33. $7x + 4 \leq 3x - 12$ OR $\frac{9x - 15}{5} > 6$
34. $4(3 - 2x) < -20$ AND $\frac{3}{2}x - 4 < 5$ 35. $5x + 12 > 2x - 3$ OR $3 - 5x < -17$
36. **/// ERROR ANALYSIS ///** Find and explain the error in one solution below.

A

$ 3x - 6 < 12$
$3x - 6 < -12$ and $3x - 6 > 12$
$3x < -6$ and $3x > 18$
$x < -2$ and $x > 6$

B

$ 3x - 6 < 12$
$3x - 6 > -12$ and $3x - 6 < 12$
$3x > -6$ and $3x < 18$
$x > -2$ and $x < 6$