CHAPTER REVIEW

1.6 Solve Linear Inequalities
pp. 41–47

EXAMPLE

Solve $25 - 3x \le 10$. Then graph the solution.
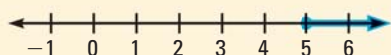
$25 - 3x \le 10$	**Write original inequality.**
$-3x \le -15$	**Subtract 25 from each side.**
$x \ge 5$	**Divide each side by -3 and reverse the inequality.**
	Graph the solution.

EXERCISES

EXAMPLES
1, 2, 3, and 4
on pp. 41–43
for Exs. 34–40

Solve the inequality. Then graph the solution.

34. $2x - 3 < -1$
35. $7 - 3x \ge -11$
36. $15x + 8 > 9x - 22$

37. $13x + 24 \le 16 - 3x$
38. $-5 < 10 - x < 5$
39. $-8 \le 3x + 1 \le 10$

40. **GEOMETRY** A triangle has sides of lengths 10, $2x$, and $3x$. The sum of the lengths of any two sides is greater than the length of the third side. Write and solve three inequalities to find the possible values of x.

1.7 Solve Absolute Value Equations and Inequalities
pp. 51–58

EXAMPLE

Solve $|3x - 7| > 2$. Then graph the solution.

$|3x - 7| > 2$	**Write original inequality.**
$3x - 7 < -2$ or $3x - 7 > 2$	**Write equivalent compound inequality.**
$3x < 5$ or $3x > 9$	**Add 7 to each side.**
$x < \dfrac{5}{3}$ or $x > 3$	**Divide each side by 3.**
	Graph the solution.

EXERCISES

EXAMPLES
2, 3, 4, and 5
on pp. 52–54
for Exs. 41–47
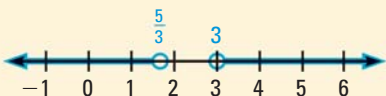
Solve the equation. Check for extraneous solutions.

41. $|3p + 2| = 7$
42. $|9q - 5| = 2q$
43. $|8r + 1| = 3r$

Solve the inequality. Then graph the solution.

44. $|x - 5| \ge 1$
45. $|5 - 2y| > 7$
46. $|6z + 5| \le 25$

47. **VOLLEYBALL** The circumference of a volleyball should be 26 inches, with a tolerance of 0.5 inch. Write and solve an absolute value inequality that describes the acceptable circumferences of a volleyball.