CHAPTER REVIEW

3.4 Solve Equations with Variables on Both Sides
pp. 154–159

EXAMPLE

Solve the equation, if possible.

a. $-2(x - 5) = 7 - 2x$ **Original equation**

$-2x + 10 = 7 - 2x$ **Distributive property**

$-2x + 3 = -2x$ **Subtract 7 from each side.**

▶ The equation $-2x + 3 = -2x$ is not true because the number $-2x$ cannot be equal to 3 more than itself. So, the equation has no solution.

b. $5(3 - 2x) = -(10x - 15)$ **Original equation**

$15 - 10x = -10x + 15$ **Distributive property**

$15 - 10x = 15 - 10x$ **Rearrange terms.**

▶ The statement $15 - 10x = 15 - 10x$ is true for all values of x. So, the equation is an identity.
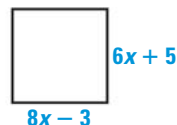
EXERCISES

EXAMPLES 1, 2, and 4 on pp. 154–156 for Exs. 29–37

Solve the equation, if possible.

29. $-3z - 1 = 8 - 3z$

30. $16 - 2m = 5m + 9$

31 $2.9w + 5 = 4.7w - 7.6$

32. $2y + 11.4 = 2.6 - 0.2y$

33. $4(x - 3) = -2(6 - 2x)$

34. $6(2a + 10) = 5(a + 5)$

35. $\frac{1}{12}(48 + 24b) = 2(17 - 4b)$

36. $1.5(n + 20) = 0.5(3n + 60)$

37. ⊘ **GEOMETRY** Refer to the square shown.

   a. Find the value of x.

   b. Find the perimeter of the square.

$6x + 5$

$8x - 3$

3.5 Write Ratios and Proportions
pp. 162–167

EXAMPLE

You know that 5 pizzas will feed 20 people. How many pizzas do you need to order to feed 88 people?

$\dfrac{5}{20} = \dfrac{x}{88}$ ←— number of pizzas
←— number of people

$88 \cdot \dfrac{5}{20} = 88 \cdot \dfrac{x}{88}$ **Multiply each side by 88.**

$22 = x$ **Simplify.**

▶ You need to order 22 pizzas.