

# 2.13

## Solving a Linear Equation with Several Occurrences of the Variable: Problem Type 5

### • Example 1

Solve  $2(3x - 1) - 3(x + 5) = 4$ .

$$2(3x - 1) - 3(x + 5) = 4$$

$$6x - 2 - 3x - 15 = 4$$

$$3x - 17 = 4$$

$$3x = 21$$

$$x = 7$$

The solution is 7.

To check, return to the original equation to replace  $x$  with 7.

$$2(3 \cdot 7 - 1) - 3(7 + 5) = 4$$

This gives

$$4 = 4.$$

The solution is verified.

### • • • CHECK YOURSELF 1

Solve for  $x$ .

$$5(2x + 4) = 7 - 3(1 - 2x)$$

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### • • • CHECK YOURSELF ANSWER

1. -4.

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# 2.13 Exercises

Name \_\_\_\_\_

Section \_\_\_\_\_

Date \_\_\_\_\_

## A N S W E R S

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_

11. \_\_\_\_\_

12. \_\_\_\_\_

13. \_\_\_\_\_

14. \_\_\_\_\_

15. \_\_\_\_\_

Solve and check the following equations.

1.  $2(2x - 1) = 3(x + 1)$

2.  $3(3x - 1) = 4(2x + 1)$

3.  $5(4x + 2) = 6(3x + 4)$

4.  $4(6x - 1) = 7(3x + 2)$

5.  $9(8x - 1) = 5(4x + 6)$

6.  $7(3x + 11) = 9(3 - 6x)$

7.  $-4(2x - 1) + 3(3x + 1) = 9$

8.  $7(3x + 4) = 8(2x + 5) + 13$

9.  $5(2x - 1) - 3(x - 4) = 4(x + 4)$

10.  $2(x - 3) - 3(x + 5) = 3(x - 2) - 7$

11.  $3(3 - 4x) + 30 = 5x - 2(6x - 7)$

12.  $3x - 5(3x - 7) = 2(x + 9) + 45$

13.  $5(5x - 3) = 6(4x + 1)$

14.  $3(7x + 2) = 5(4x + 1) + 17$

15.  $5(5x + 3) = 3(8x - 2) + 4$