



Solving a Linear Equation with Several Occurrences of the Variable: Problem Type 1

• Example 1

Solve

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

Applying the distributive property on the left, we have the equivalent equation

$$6x + 8 = 5x - 6$$

We can then proceed as before:

$6x + 8 = 5x - 6$	
$\frac{-5x}{x + 8} = \frac{-5x}{-6}$	Subtract 5x on both sides.
$\frac{-8}{x} = \frac{-8}{-14}$	Subtract 8 on both sides.

The solution is -14 . We will leave the checking of this result to the reader.

Remember: Always return to the original equation to check.

● ● ● CHECK YOURSELF 1

Solve and check each of the following equations.

a. $4(5x - 2) = 19x + 4$

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

● ● ● CHECK YOURSELF ANSWER

1. (a) 12; (b) -13 .

2.9 Exercises

Name _____

Section _____

Date _____

A N S W E R S

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

Solve and check the following equations.

1. $4(3x + 4) = 11x - 2$

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

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

4. $5(3x - 1) - 6x = 3x - 2$

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

6. $5x = 3(x - 6)$

7. $5x = 2(x + 12)$

8. $7(2x - 3) = 20x$

9. $4(3x + 5) = 18x$

10. $6(6 - x) = 3x$

11. $5(8 - x) = 3x$

12. $4(x + 3) = 12x - 2$