

2.8

Solving a Linear Equation: Problem Type 3

• Example 1

If $3x - 8 = 10$, what is the value of $8x + 14$?

We first solve $3x - 8 = 10$ for x .

$$3x - 8 = 10$$

$$3x = 18$$

$$x = 6$$

Now substitute the value for x into the expression $8x + 14$.

$$8 \cdot 6 + 14 = 62$$

The solution is 62.

• • • CHECK YOURSELF 1

Solve.

If $2x - 7 = 1$, what is the value of $10x - 9$?

• • • CHECK YOURSELF ANSWER

1. 31.

2.8 Exercises

Name _____

Section _____

Date _____

A N S W E R S

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12. _____

Use the solution of the equation to find the value of the given expression.

1. $4x - 3 = 1; 3x + 12$

2. $10x - 1 = 19; 8x + 3$

3. $x - 14 = 6; 2x - 10$

4. $3x - 15 = 15; -x + 14$

5. $7x - 9 = 12; 4x - 7$

6. $3x - 9 = 15; 6x - 10$

7. $9x + 8 = 35; -3x + 4$

8. $4x - 5 = 43; -2x + 9$

9. $3x - 16 = 26; -x + 15$

10. $-6x - 10 = 14; 3x + 7$

11. $4x + 6 = 30; -3x + 35$

12. $-5x - 18 = 17; 2x + 20$