

Name: _____

Date: _____

Using the Distributive Property in Solving Linear Equations Algebra 1 Homework

Skills

1. Which of the following equations illustrates the distributive property?

(1) $3 + (5 + 2) = (3 + 5) + 2$

(3) $5(52) = 5(50 + 2) = 250 + 10$

(2) $5 \cdot (3 \cdot 2) = (5 \cdot 3) \cdot 2$

(4) $5 \cdot 3 = 3 \cdot 5$?

2. Which of the following values of x solves the equation $7(x + 9) = 3(2x + 19)$?

(1) -8

(3) 7

(2) 5

(4) -6

3. Rewrite each of the following expressions without parentheses.

(a) $4(2x - 7)$

(b) $-3(x + 6)$

(c) $-(-5x + 8)$

(d) $\frac{1}{2}(4x + 20)$

4. Determine the solution to each of the following equations. Check your answers and list the properties you used

(a) $5(x - 3) = 20$

(b) $2(x - 4) = 14$

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

(d) $x - (7 - x) = 35$

(e) $9 - 2(y + 4) = 17$

(f) $3(2x + 5) = 9x + 10$

5. Write an equation for each of the following sentences and solve for the described number.

(a) Seven times the sum of a number and six is 49.

(b) Three-halves of the difference of a number and two is one more than twice the same number.

Applications

6. A rectangle has dimensions, in feet, as shown in the figure.

(a) Write an expression for the area of the rectangle.

(b) Find the area of the rectangle, in square feet, if $x = 3$.

(c) Find the value of x if the area of the rectangle is 160 square feet.

