Tell whether the given value of the variable is a solution of the equation.

1. \(8x = 6x - 20; x = -10\)
2. \(6x - 1 = 3x + 8; x = -3\)
3. \(-3x - 13 = -7x + 15; x = -7\)
4. \(-2x + 5 = 7x - 22; x = 3\)

Solve the equation. Check your solution.

5. \(9x = 7x + 22\)
6. \(14x - 3 = 10x + 1\)
7. \(6x + 5 = 4x - 9\)
8. \(10 + 3x = 26 - 5x\)
9. \(3(4x - 1) = 12x\)
10. \(11 - 2x = 31 - 7x\)
11. \(9x - 10 = 5x + 14\)
12. \(16x + 21 = 30 + 13x\)
13. \(-8x - 1 = -5x + 23\)
14. \(4x + 10 = 2(2x + 5)\)
15. \(12x - 7 = 5x + 49\)
16. \(-4x + 10 = 6x - 40\)

Write the verbal sentence as an equation. Then solve the equation.

17. Five minus 6 times a number is equal to \(-11 + 2\) times the number.
18. Four less than \(-7\) times a number is equal to \(13 - 6\) times the number.
19. Eight times a number plus 5 is equal to 5 times the number minus 13.
20. One less than 10 times a number is equal to \(-2\) times the number plus 35.

Find the value of \(x\) for the given square.

21. \(7 - x\)

22. \(8x - 5\)

23. You and your brother are saving money to buy a camcorder. You already have $60 saved and your brother has $45 saved. You plan on saving an additional $5 each week. Your brother plans on saving an additional $8 each week. Write and solve an equation to find how many weeks it takes both of you to save the same amount. Let \(w\) represent the number of weeks.

24. The length of a football field including the end zones is 48 feet longer than four times the length of a tennis court. It is also 282 feet longer than a tennis court. Write and solve an equation to find the length (in feet) of a tennis court and a football field. Let \(t\) represent the length of a tennis court.