**SKILLS**  Objective A

In 1–8, solve and check.

1. \(24x = 16 - 8x\)
2. \(6r + 9 = 13r - 5\)
3. \(8n + 5n - 12 = n\)
4. \(9(a + 3) = 30a\)
5. \(3(4h + 2) = 2(h + 1)\)
6. \(\frac{2}{3}(w + 9) = \frac{4}{9}w + 1\)
7. \(\frac{3}{4} + 4 = \frac{d}{5} - \frac{1}{4}\)
8. \(7 - \frac{1}{5}x = 3(x + 1)\)

**PROPERTIES**  Objective F

In 9, a sentence is solved. Fill in what was done.

9. \(\frac{1}{3}(x - 5) = \frac{1}{3}x + 3\)
   
   \(3(x - 5) = 12\left(\frac{1}{3}x + 3\right)\)
   
   \(3x - 15 = 4x + 36\)
   
   \(-x - 15 = 36\)
   
   \(-x = 51\)
   
   \(x = -51\)

10. To solve \(4x + 0.02 = 1.5x + 9\), an effective first step is to add
    to both sides.

**USES**  Objective H

11. Consumer \(A\) gets a cellular telephone contract that requires monthly payments of $34.99. Consumer \(B\)'s contract requires monthly payments of $39.99 but offers him a $75 rebate when he signs up.

   a. After one year, who will have paid more?
   
   b. After two years, who will have paid more?
   
   c. After how many months will \(A\) and \(B\) have paid the same amount?

12. Suppose the city of Atlanta, GA has a population of 471,000 people that increases by 11,000 people every year, and that Washington, DC has a population of 560,000 that decreases by 3,000 people each year. To the nearest tenth of a year, how long will it be until the two cities have about the same number of residents?