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

1. \(3x - 1 = 11; x = 4\)  
2. \(1 = 2x + 7; x = -4\)  
3. \(12 - x = 15; x = -3\)  
4. \(-17 = 4x + 9; x = -2\)  
5. \(-\frac{x}{5} + 7 = 5; x = 10\)  
6. \(-7 = \frac{x}{6} - 10; x = 18\)

Solve the equation. Check your solution.

7. \(3x + 1 = 13\)  
8. \(17 = 8x - 7\)  
9. \(4x + 5 = 5\)  
10. \(11 = 2x + 7\)  
11. \(5x - 2 = 3\)  
12. \(7x + 1 = 22\)  
13. \(\frac{x}{2} - 5 = 3\)  
14. \(10 = \frac{x}{4} + 7\)  
15. \(\frac{x}{5} - 1 = 9\)  
16. \(4 = \frac{x}{8} + 3\)  
17. \(\frac{x}{3} + 6 = 9\)  
18. \(\frac{x}{6} - 2 = 3\)  
19. \(6 - x = 7\)  
20. \(5 - 2x = 17\)  
21. \(-4 = 1 - x\)  
22. \(10 = 3x - 11\)

23. You are buying a digital camera that costs $375. The store lets you make a down payment. You can pay the remaining cost in four equal monthly payments with no interest charged. You make a down payment of $175. Which equation can you use to find the amount of each monthly payment?
   A. \(375 = 175 + 4p\)  
   B. \(375 = 4p - 175\)  
   C. \(375 + 4p = 175\)

24. Use the information from Exercise 23 to find the amount of each monthly payment.

25. For one day, a barber has 28 customers and receives $64 in tips. The barber charges a flat rate for haircuts and makes a total of $456 including tips. Which equation can you use to find how much the barber charges for a haircut?
   A. \(28x - 456 = 64\)  
   B. \(28x - 64 = 456\)  
   C. \(28x + 64 = 456\)

26. Use the information from Exercise 25 to find how much the barber charges for a haircut.

27. You are building an entertainment center. The middle section of the entertainment center is 30 inches wide for your television. You also want 2 side-by-side bookcases (4 total) on each side of the middle section. The entire entertainment center is 90 inches wide. How wide can each of the bookcases be?
   a. Draw a diagram of the entertainment center. Label your diagram.
   b. Write a verbal model to find the width of each bookcase.
   c. Let \(w\) represent the width of each bookcase. Write an equation based on your verbal model.
   d. Solve your equation to find the width of each bookcase.