Practice 2-5

Problem Solving

1. A rental car agency charges $240.00 per week plus $0.25 per mile to rent a car. How many miles can you travel in one week for $370.00?

2. Given the perimeter of a rectangle is 98 in. and the width is 22 in., what is the length of the rectangle?

3. An appliance store decreases the price of a 19-in. television set 25% to a sale price of $482.63. What was the original price? Round to the nearest cent.

4. **Reasoning** Jim is paid $25 per hour at his job. He currently has $1,250 in his bank account. In order to go on a trip with his friends he needs to have $2,500.
   a) How many hours over the next few weeks must he work until he reaches the amount needed to go on the trip?
   b) If one of the three given dollar amounts changes, how would that change the number of hours that Jim must work?

5. **Open-Ended** Dan takes an airplane to visit his parents. He pays the airline a total of $450. The cost of the ticket is $315. The airline also charges $15 for every pound that the luggage goes over the 50 pound limit.
   a) How many pounds is Dan's luggage over the 50 pound limit?
   b) Describe another situation using the same numbers.

6. The O'Briens are buying new windows for their house. The company installs the new windows for $2,250. The total cost for buying the windows and having them installed is $4,432.50. If the O'Briens pay $145.50 per window, how many windows did they buy?

7. A rectangular athletic field is twice as long as it is wide. If the perimeter of the athletic field is 72 yards, what are its dimensions?
   a) What is the width?
   b) What is the length?

8. Tobin is having the basement remodeled. The contractor charges $16.50 per hour, plus the cost of supplies. The contractor goes to two different stores for supplies. At the first store the contractor spends $125.00 and at the second store the bill is $289.00. Tobin gets a bill at the end of the project for $826.50. He thought the bill was going to be $701.50.

   a) How many hours did the contractor work?

   b) Which of the following explains the error Tobin made?
   - A. Tobin did not include the bill for $289.00.
   - B. Tobin did not include labor in the amount.
   - C. Tobin did not include the bill for $125.00.
   - D. Tobin did not include either bill.

9. Danielle and Drew are sightseeing for the day. Between the two of them they take 77 pictures. Danielle takes 17 more than twice as many pictures as Drew.

   a) How many pictures does Drew take?

   b) How many pictures does Danielle take?

10. **Think About the Process** Frank works at a company that sells magazine subscriptions. He gets paid $7 per subscription for the first 75 that he sells. After he sells 75 subscriptions he gets paid $12 for each one he sells. Frank makes $861 from selling the subscriptions.

    a) Let x represent the additional subscriptions. Which equation could be used to solve this problem?
    - A. $7(75) + 12x = 525$
    - B. $7(75) + 12x = 861$
    - C. $7x + 12(75) = 525$
    - D. $7x + 12(75) = 861$

    b) How many additional subscriptions does Frank sell after the first 75?

11. **Think About the Process** A family of 3 joins a gym. Each person pays $100 to join plus $10 per month. The family decides to stop going after they have paid $600 altogether.

    a) Let x represent the total number of months. How could the equation be written?
    - A. $10x + 100 = 600$
    - B. $3(10x) + 100 = 600$
    - C. $10x + 3(100) = 600$
    - D. $3(10x + 100) = 600$

    b) The family went to the gym for _____ months.

1. 520
2. 27 in.
3. $643.51
4. a) 50 hr
   b) Answers will vary
5. a) 9 lb
   b) Answers will vary
6. 15
7. a) 12 yd
   b) 24 yd
8. a) 25
   b) C
9. a) 20
   b) 57
10. a) B
    b) 28
11. a) D
    b) 10