81. ***Finding MSRP.*** What was the manufacturer's suggested retail price (MSRP) for a Lexus SC 430 that sold for $54,450 after a 10% discount?

82. ***Finding MSRP.*** What was the MSRP for a Hummer H1 that sold for $107,272 after an 8% discount?

83. ***Finding the original price.*** Find the original price if there is a 15% discount and the sale price is $255.

84. ***Finding the list price.*** Find the list price if there is a 12% discount and the sale price is $4400.

85. ***Rate of discount.*** Find the rate of discount if the discount is $40 and the original price is $200.

86. ***Rate of discount.*** Find the rate of discount if the discount is $20 and the original price is $250.

87. ***Width of a football field.*** The perimeter of a football field in the NFL, excluding the end zones, is 920 feet. How wide is the field?

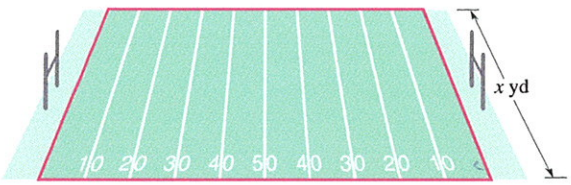

Figure for Exercise 87

88. ***Perimeter of a frame.*** If a picture frame is 16 inches by 20 inches, then what is its perimeter?

89. ***Volume of a box.*** A rectangular box measures 2 feet wide, 3 feet long, and 4 feet deep. What is its volume?

90. ***Volume of a refrigerator.*** The volume of a rectangular refrigerator is 20 cubic feet. If the top measures 2 feet by 2.5 feet, then what is the height?

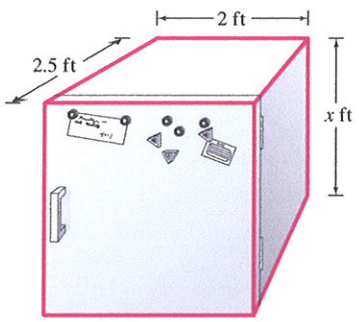

Figure for Exercise 90

91. ***Radius of a pizza.*** If the circumference of a pizza is 8π inches, then what is the radius?

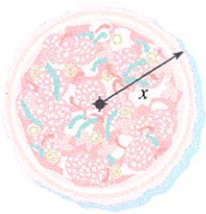

Figure for Exercise 91

92. ***Diameter of a circle.*** If the circumference of a circle is 4π meters, then what is the diameter?

93. ***Height of a banner.*** If a banner in the shape of a triangle has an area of 16 square feet with a base of 4 feet, then what is the height of the banner?

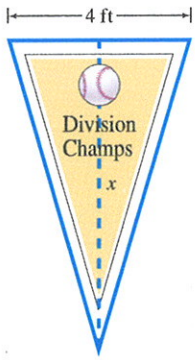

Figure for Exercise 93

94. ***Length of a leg.*** If a right triangle has an area of 14 square meters and one leg is 4 meters in length, then what is the length of the other leg?

95. ***Length of the base.*** A trapezoid with height 20 inches and lower base 8 inches has an area of 200 square inches. What is the length of its upper base?

96. ***Height of a trapezoid.*** The end of a flower box forms the shape of a trapezoid. The area of the trapezoid is 300 square

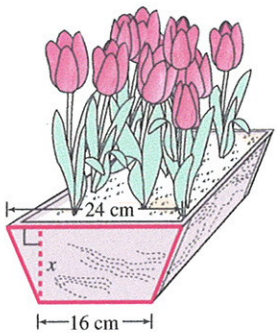

Figure for Exercise 96

Warm-Ups ▼

True or false? Explain your answer.

1. The first step in solving a word problem is to write the equation.
2. You should always write down what the variable represents.
3. Diagrams and tables are used as aids in solving problems.
4. To represent two consecutive odd integers, we use x and $x + 1$.
5. If $5x$ is 2 miles more than $3(x + 20)$, then $5x + 2 = 3(x + 20)$.
6. We can represent two numbers with a sum of 6 by x and $6 - x$.
7. Two numbers that differ by 7 can be represented by x and $x + 7$.
8. The degree measures of two complementary angles can be represented by x and $90 - x$.
9. The degree measures of two supplementary angles can be represented by x and $x + 180$.
10. If x is half as large as $x + 50$, then $2x = x + 50$.

2.6 Exercises

‹ Study Tips ›

- Make sure you know how your grade in this course is determined. How much weight is given to tests, homework, quizzes, and projects? Does your instructor give any extra credit?
- You should keep a record of all of your scores and compute your own final grade.

Reading and Writing *After reading this section, write out the answers to these questions. Use complete sentences.*

1. What types of problems are discussed in this section?
2. Why do we solve number problems?
3. What is uniform motion?
4. What are supplementary angles?
5. What are complementary angles?
6. What should you always do when solving a geometric problem?

‹1› Number Problems

Show a complete solution to each problem. See Example 1.

7. ***Consecutive integers.*** Find two consecutive integers whose sum is 79.
8. ***Consecutive odd integers.*** Find two consecutive odd intergers whose sum is 56.
9. VIDEO ***Consecutive integers.*** Find three consecutive integers whose sum is 141.
10. ***Consecutive even integers.*** Find three consecutive even integers whose sum is 114.
11. ***Consecutive odd integers.*** Two consecutive odd integers have a sum of 152. What are the integers?
12. VIDEO ***Consecutive odd integers.*** Four consecutive odd integers have a sum of 120. What are the integers?