

Concept and Vocabulary:

1. The area, A , of a triangle with base b and height h is given by formula _____.
2. The area, A , of a circle with radius r is given by the formula _____.
3. The circumference, C , of a circle with radius r is given by the formula _____.
4. In any circle, twice the length of the _____ is the length of the _____.
5. The volume, V , of a rectangular solid with length l , width w , and height h is given by the formula _____.
6. The volume, V , of a circular cylinder with radius r and height h is given by the formula _____.
7. The sum of the measures of the three angles of any triangle is _____.
8. Two angles with measures having a sum of 90° are called _____ angles.
9. Two angles with measures having a sum of 180° are called _____ angles.
10. If the measure of an angle is represented by x , the measure of its complement is represented by _____ and the measure of its supplement is represented by _____.

Practice Exercises:

In exercises 1 - 5 odd, **first copy the image from the book** and then find the perimeter and/or area, as specified.

1. Find the perimeter and area of the rectangle.

3. Find the area of the triangle.

5. Find the area of the trapezoid.

For problems 7 - 11 odd, draw a picture of the scenario and then answer the question.

7. A rectangular swimming pool has a width of 25 feet and an area of 1250 square feet. What is the pool's length?

9. A triangle has a base of 5 feet and an area of 20 square feet. Find the triangle's height.

11. A rectangle has a width of 44 centimeters and a perimeter of 188 centimeters. What is the rectangle's length?

In exercises 13 and 15, **first copy the image from the book** and then find the area and circumference of each circle. Express your answers in terms of π . Then round to the nearest whole number.

13.

17. The circumference of a circle is 14π inches.
Find the circle's radius and diameter.

15.

In exercises 19 - 25 odd, **first copy the image from the book** and then find the volume of each figure. Where applicable, express answers in terms of π . Then round to the nearest whole number.

19.

21.

23.

25.

In exercises 31 and 33, **first copy the image from the book** and then find the measure of each angle in the triangle.

31.

33.

35. One angle of a triangle is twice as large as another. The measure of the third angle is 20 deg more than that of the smallest angle. Find the measure of each angle.

In exercises 37 and 39, find the measure of the complement of each angle.

37. 58 deg

39. 88 deg

In exercises 41 and 43, find the measure of the supplement of each angle.

41. 132 deg

43. 90 deg

In exercises 45 - 49 odd, find the measure of the angle described.

45. The angle's measure is 60 deg more than that of its complement.

49. The measure of the angle's supplement is 10 deg more than three times that of its complement.

47. The angle's measure is three times that of its supplement.

53. Copy down the figure from the book and then find it's area.

55. Find the volume of the cement block shown in the book. No need to copy the figure if you don't want.

Applications:

57. Taxpayers with an office in their home may deduct a percentage of their home-related expenses. This percentage is based on the ratio of the office's area to the area of the home. A taxpayer with a 2200-square-foot home maintains a 20-foot by 16-foot office. If the yearly electricity bills for the home come to \$4800, how much of this is deductible?
59. Which one of the following is a better buy: a large pizza with a 14-inch diameter for \$12.00 or a medium pizza with a 7-inch diameter for \$5.00?
61. If asphalt pavement costs \$0.80 per square foot, find the cost to pave the circular road in the figure shown. Round to the nearest dollar.

63. A glass window is to be placed in a house. The window consists of a rectangle, 6 feet high by 3 feet wide, with a semicircle at the top. See picture in text. Approximately how many feet of stripping, to the nearest tenth of a foot, will be needed to frame the window?
65. A water reservoir is shaped like a rectangular solid with a base that is 50 yards by 30 yards, and a vertical height of 20 yards. At the start of a three-month period of no rain, the reservoir was completely full. At the end of this period, the height of the water was down to 6 yards. How much water was used in the three-month period?
67. Two cylindrical cans of soup sell for the same price. One can has a diameter of 6 inches and a height of 5 inches. The other has a diameter of 5 inches and a height of 6 inches. Which can contains more soup and, therefore, is the better buy?

69. You are about to sue your contractor who promised to install a water tank that holds 500 gallons of water. You know that 500 gallons is the capacity of a tank that holds 67 cubic feet. The cylindrical tank has a radius of 3 feet and a height of 2 feet 4 inches. Does the evidence indicate you can win the case against the contractor if you go to court?