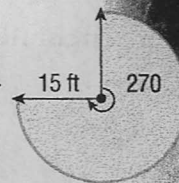


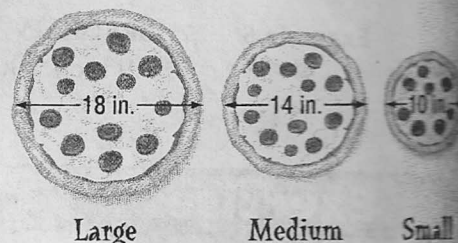
24. Find the diameter of a circle if its area is 706.9 square millimeters.

25. **LAWN CARE** The pattern of water distribution from a sprinkler is commonly a circle or part of a circle. A certain sprinkler is set to cover part of a circle measuring 270° . Find the area of the grass watered if the sprinkler reaches a distance of 15 feet.



Another approximate value for π is $\frac{22}{7}$. Use this value to find the circumference and area of each circle.

26. The diameter is 7 feet. 27. The radius is $2\frac{1}{3}$ inches.
28. **PIZZA** The pizzeria has a special that offers one large, two medium, or three small pizzas for \$12. Which offer is the best buy? Explain your reasoning.

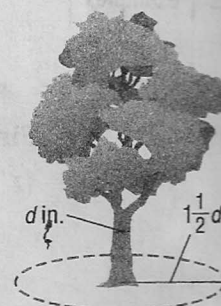


Real-World Link

Trees should be planted so that they have plenty of room to grow. The planting site should have an area of at least 2 to 3 times the diameter of the circle the spreading roots of the maturing tree are expected to occupy.

Source: www.forestry.uga.edu

29. **SPORTS** Three tennis balls are packaged one on top of the other in a can. Which measure is greater, the can's height or circumference? Explain.
30. **TREES** During a construction project, barriers are placed around trees. For each inch of trunk diameter, the protection zone should have a radius of $1\frac{1}{2}$ feet. Find the area of this zone for a tree with a trunk circumference of 63 inches.



31. **GRAPHIC ARTS** Michael is painting a sign for a new coffee shop. On the sign, he drew a circle with a radius of 2 feet. He then drew another circle with a radius 1.5 times larger. How much greater is the area of the larger circle?
32. **FIND THE DATA** Refer to the Texas Data File on pages 16–19. Choose some data and write a real-world problem in which you would determine the area of a circle.
33. **OPEN ENDED** Draw and label a circle that has a circumference between 10 and 20 centimeters. Justify your answer.
34. **NUMBER SENSE** If the radius of a circle is halved, how will this affect its circumference and its area? What happens to the circumference and area if the radius is doubled or tripled? Explain your reasoning. (Hint: Find the circumference and area for each circle and organize the data in a table.)

EXTRAPRACTICE

See pages 711, 734.

Math online

Self-Check Quiz at
tx.msmath3.com

H.O.T. Problems