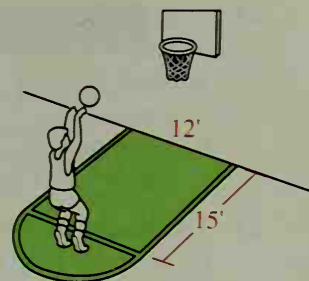
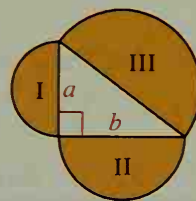


11. A basketball rim has diameter 18 in. Find the circumference of the rim and the area it encloses. Use $\pi \approx 3.14$.
12. When a basketball player is shooting a free throw, the other players must stay out of the shaded region shown. This region consists of a semicircle together with a rectangle. Find the area of this region to the nearest square foot (ft^2). Use $\pi \approx 3.14$.



13. If 6 oz of dough are needed to make an 8-in. pizza, how much dough will be needed to make a 16-in. pizza of the same thickness? (*Hint*: Compare the areas of the pizza tops.)
14. One can of pumpkin pie mix will make a pie of diameter 8 in. If two cans of pie mix are used to make a larger pie of the same thickness, find the diameter of that pie. Use $\sqrt{2} \approx 1.414$.
15. A school's wrestling mat is a square with 40 ft sides. A circle 28 ft in diameter is painted on the mat. No wrestling is allowed outside the circle. Find the area of the part of the mat that is *not* used for wrestling. Use $\pi \approx \frac{22}{7}$.
16. An advertisement states that a Roto-Sprinkler can water a circular region with area 1000 ft^2 . Find the diameter of this region to the nearest foot. Use $\pi \approx 3.14$.
17. Which is the better buy, a 10-in. pizza costing \$5 or a 15-in. pizza costing \$9? Use $\pi \approx 3.14$.

18. Semicircles are constructed on the sides of the right triangle shown at the right. If $a = 6$ and $b = 8$, show that
Area I + Area II = Area III.



- B** 19. Repeat Exercise 18 if the right triangle has legs a and b and hypotenuse c .

Exs. 18, 19

20. A Ferris wheel has diameter 42 ft. How far will a rider travel during a 4-min ride if the wheel rotates once every 20 seconds? Use $\pi \approx \frac{22}{7}$.
21. The tires of a racing bike are approximately 70 cm in diameter.
 - a. How far does a bike racer travel in 5 min if the wheels are turning at a speed of 3 revolutions per second? Use $\pi \approx \frac{22}{7}$.
 - b. How many revolutions does a wheel make in a 22 km race? Use $\pi \approx \frac{22}{7}$.
22. A slide projector casts a circle of light with radius 2 ft on a screen that is 10 ft from the projector. If the screen is removed, the projector shines an even larger circle of light on the wall that was 10 ft behind the screen. Find the circumferences and areas of the circles of light on the screen and on the wall. Leave answers in terms of π .