

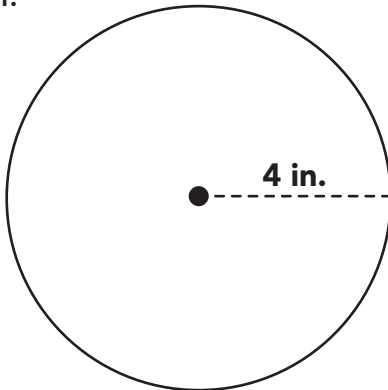
Objective Solving Area and Circumference Problems

Warm-Up

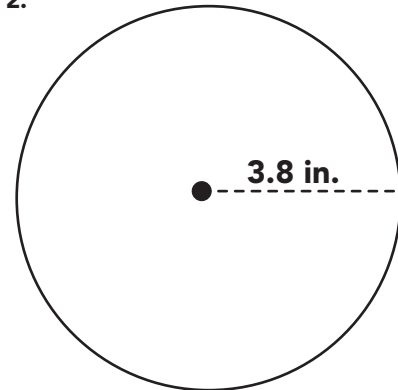


Determine the area of each circle. Use 3.14 for π .

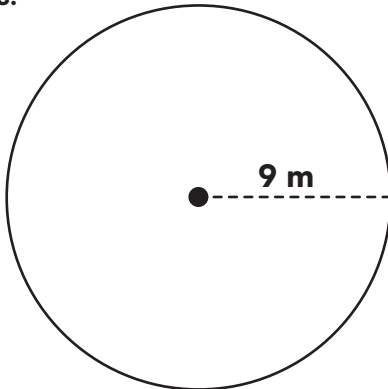
1.



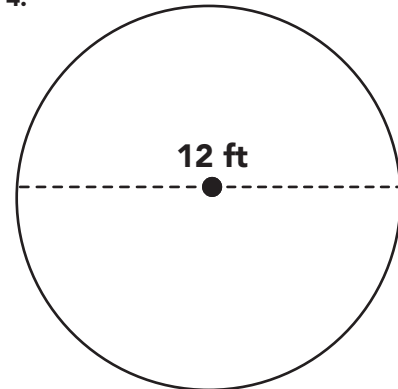
2.



3.



4.



GETTING STARTED

A Winning Formula

Suppose that the circumference of a circle is approximately 157 centimeters.

1. Describe a strategy you can use to solve for the area of the circle.

2. Solve for the area of the circle. Use 3.14 for π .



A Maximum Area Problem



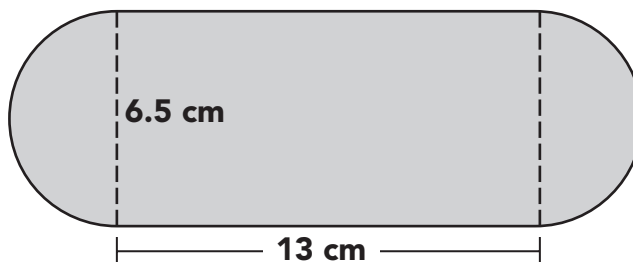
A friend gave you 120 feet of fencing. You decide to fence in a portion of the backyard for your dog. You want to maximize the amount of fenced land.

1. Draw a diagram, label the dimensions, and compute the maximum fenced area. Assume the fence is free-standing and you are not using any existing structure.

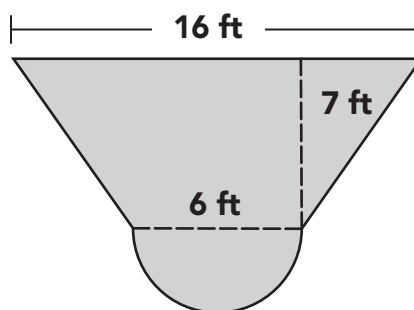


In previous grades you worked with composite figures made up of triangles and various quadrilaterals. Now that you know the area of a circle, you can calculate the area of more interesting composite figures.

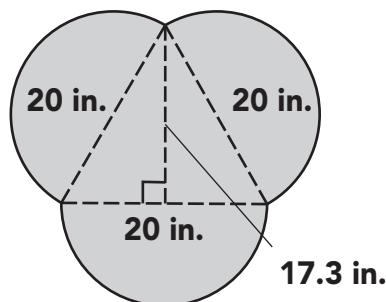
1. A figure is composed of a rectangle and two semicircles.
Determine the area of the figure.



2. A figure is composed of a trapezoid and a semicircle.
Determine the area of the figure.



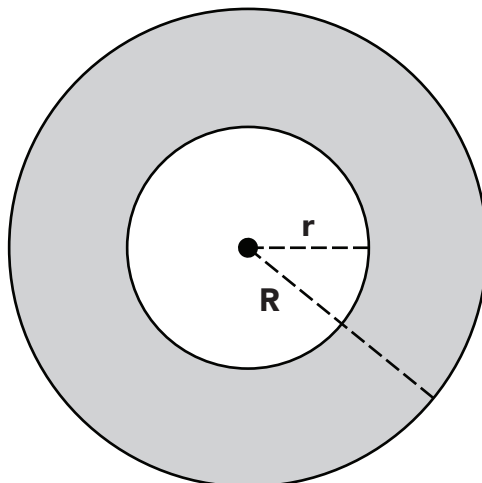
3. A figure is composed of a triangle and three semicircles.
Determine the area of the figure.



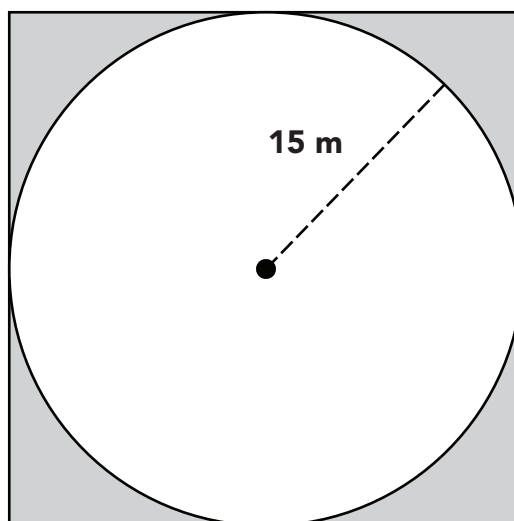


You have worked with composite figures by adding on areas. Now let's think about subtracting areas.

1. In the concentric circles shown, R represents the radius of the larger circle and r represents the radius of the smaller circle. Suppose that $R = 8$ centimeters and $r = 3$ centimeters. Calculate the area of the shaded region.



2. A circle is inscribed in a square. Determine the area of the shaded region.





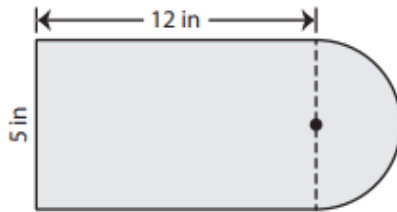
LESSON 1.3a Circular Reasoning



Objective Solving Area and Circumference Problems

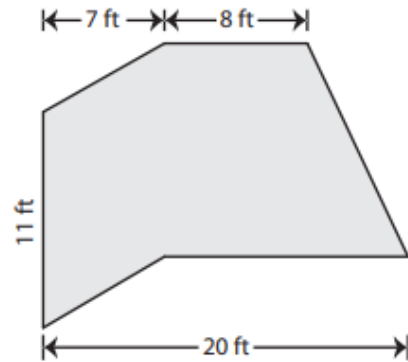
Find the area of each figure. Round your answer to 2 decimal places if required.
(Use $\pi = 3.14$)

1)



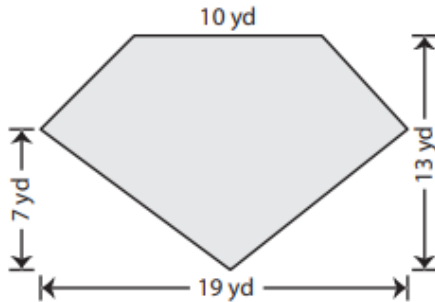
Area = _____

2)



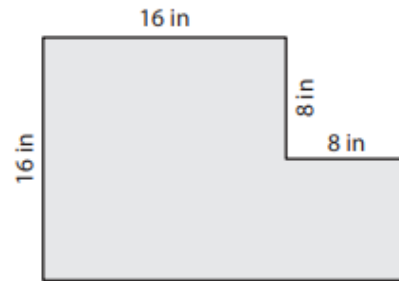
Area = _____

3)



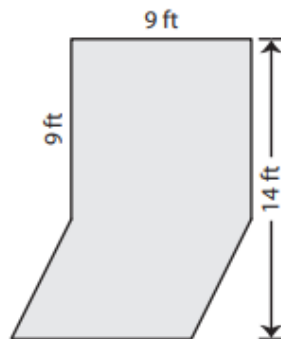
Area = _____

4)



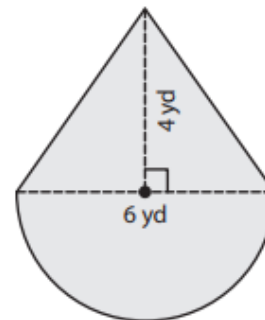
Area = _____

5)



Area = _____

6)



Area = _____

