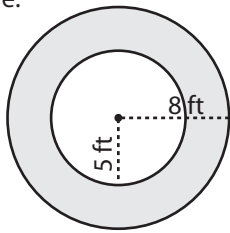


Concentric Circle - Area

Easy: S1

Example:



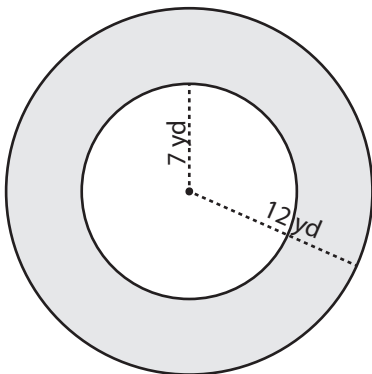
Area = ?

Area of shaded region = (Area of outer circle) - (Area of inner circle)

$$\begin{aligned}
 &= \pi R^2 - \pi r^2 \\
 &= \pi (R^2 - r^2) \\
 &= \pi (8^2 - 5^2) \\
 &= \pi (64 - 25) \\
 &= \mathbf{39\pi \text{ ft}^2}
 \end{aligned}$$

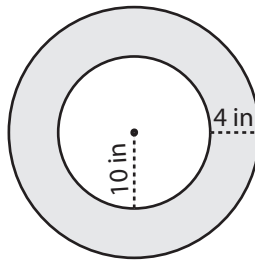
Find the exact area of each shaded region.

1)



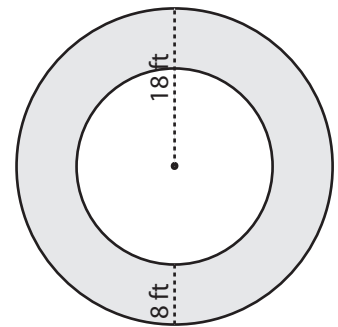
Area =

2)



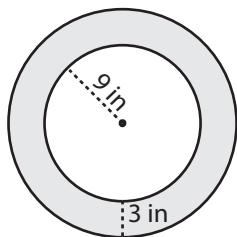
Area =

3)



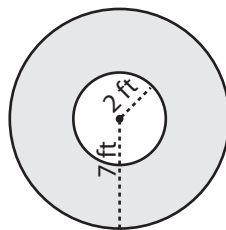
Area =

4)



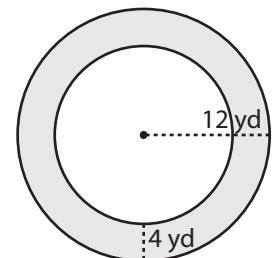
Area =

5)



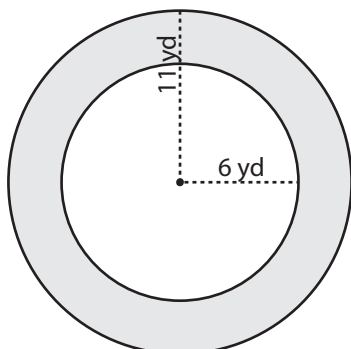
Area =

6)



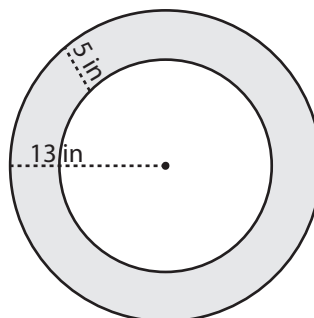
Area =

7)



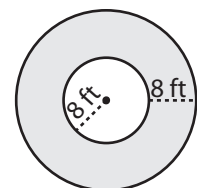
Area =

8)



Area =

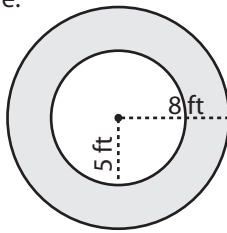
9)



Area =

Concentric Circle - Area

Example:



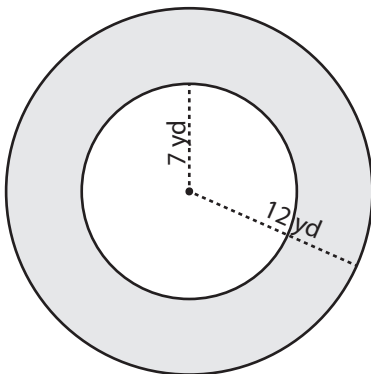
Area = ?

Area of shaded region = (Area of outer circle) - (Area of inner circle)

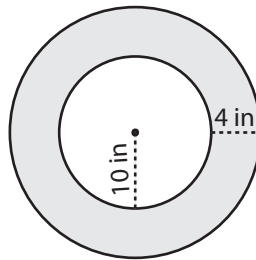
$$\begin{aligned}
 &= \pi R^2 - \pi r^2 \\
 &= \pi (R^2 - r^2) \\
 &= \pi (8^2 - 5^2) \\
 &= \pi (64 - 25) \\
 &= \mathbf{39\pi \text{ ft}^2}
 \end{aligned}$$

Find the exact area of each shaded region.

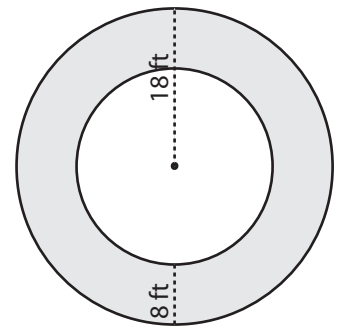
1)

Area = $\mathbf{95\pi \text{ yd}^2}$

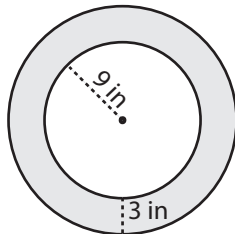
2)

Area = $\mathbf{96\pi \text{ in}^2}$

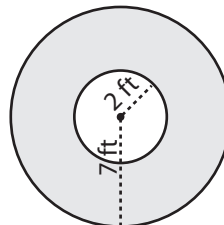
3)

Area = $\mathbf{224\pi \text{ ft}^2}$

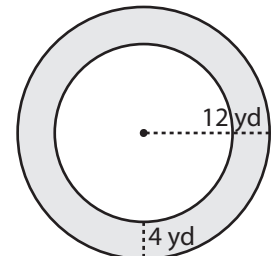
4)

Area = $\mathbf{63\pi \text{ in}^2}$

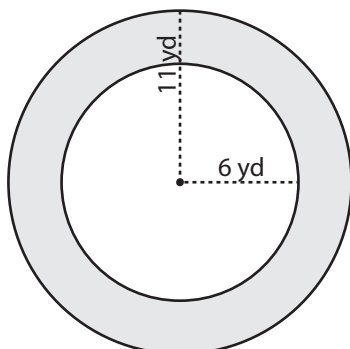
5)

Area = $\mathbf{45\pi \text{ ft}^2}$

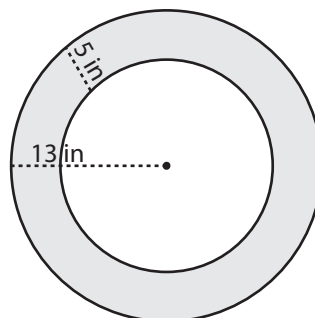
6)

Area = $\mathbf{80\pi \text{ yd}^2}$

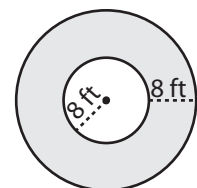
7)

Area = $\mathbf{85\pi \text{ yd}^2}$

8)

Area = $\mathbf{105\pi \text{ in}^2}$

9)

Area = $\mathbf{192\pi \text{ ft}^2}$