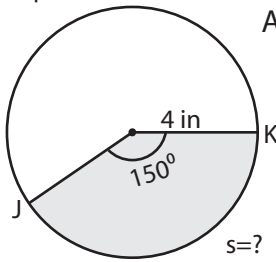


Arc Length and Area of a Sector

Example:

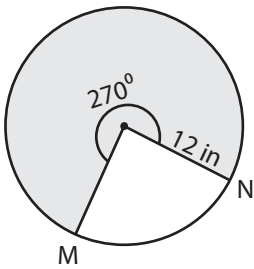


$$\begin{aligned} \text{Arc length of a sector (s)} &= \frac{\theta \times \pi \times r}{180^\circ} \\ &= \frac{150^\circ \times 3.14 \times 4}{180^\circ} \\ &= \mathbf{10.47 \text{ in}} \end{aligned}$$

$$\begin{aligned} \text{Area} &= \frac{s \times r}{2} \\ &= \frac{10.47 \times 4}{2} \\ &= \mathbf{20.94 \text{ in}^2} \end{aligned}$$

Find the length of the arc and area of the shaded region. Round the answer to two decimal places. (use $\pi = 3.14$)

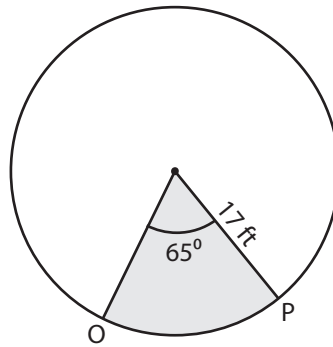
1)



Length of the arc MN = _____

Area of a sector = _____

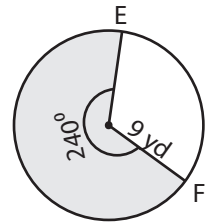
2)



Length of the arc OP = _____

Area of a sector = _____

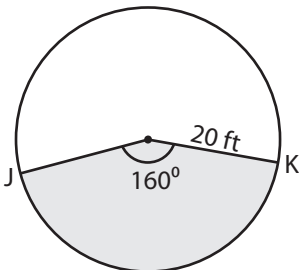
3)



Length of the arc EF = _____

Area of a sector = _____

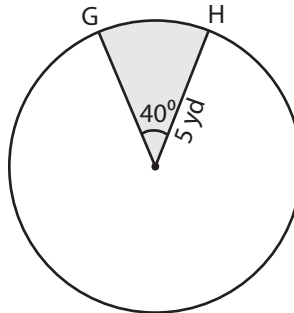
4)



Length of the arc JK = _____

Area of a sector = _____

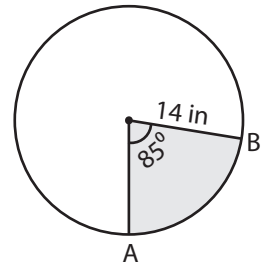
5)



Length of the arc GH = _____

Area of a sector = _____

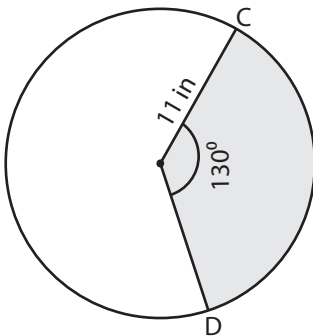
6)



Length of the arc AB = _____

Area of a sector = _____

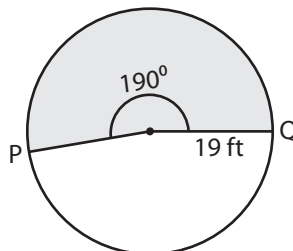
7)



Length of the arc CD = _____

Area of a sector = _____

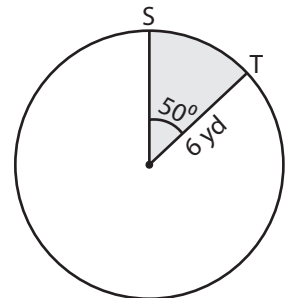
8)



Length of the arc PQ = _____

Area of a sector = _____

9)

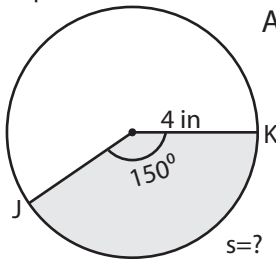


Length of the arc ST = _____

Area of a sector = _____

Arc Length and Area of a Sector

Example:

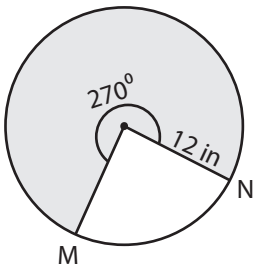


$$\begin{aligned} \text{Arc length of a sector (s)} &= \frac{\theta \times \pi \times r}{180^\circ} \\ &= \frac{150^\circ \times 3.14 \times 4}{180^\circ} \\ &= \mathbf{10.47 \text{ in}} \end{aligned}$$

$$\begin{aligned} \text{Area} &= \frac{s \times r}{2} \\ &= \frac{10.47 \times 4}{2} \\ &= \mathbf{20.94 \text{ in}^2} \end{aligned}$$

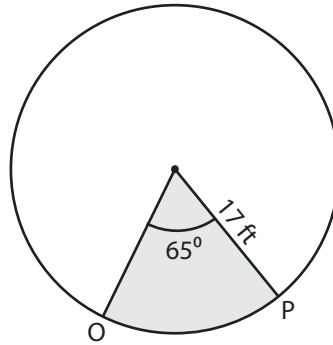
Find the length of the arc and area of the shaded region. Round the answer to two decimal places. (use $\pi = 3.14$)

1)



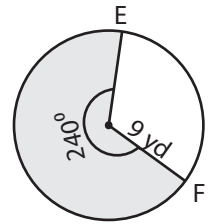
Length of the arc MN = **56.52 in**
 Area of a sector = **339.12 in²**

2)



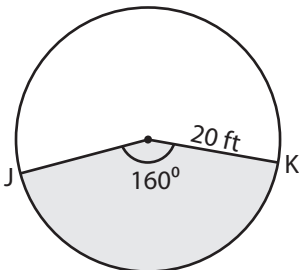
Length of the arc OP = **19.28 ft**
 Area of a sector = **163.85 ft²**

3)



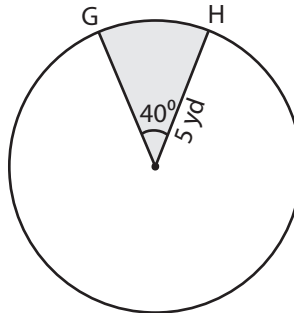
Length of the arc EF = **37.68 yd**
 Area of a sector = **169.56 yd²**

4)



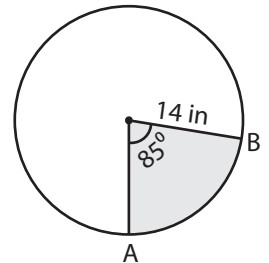
Length of the arc JK = **55.82 ft**
 Area of a sector = **558.22 ft²**

5)



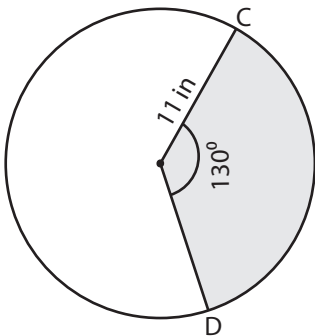
Length of the arc GH = **3.49 yd**
 Area of a sector = **8.72 yd²**

6)



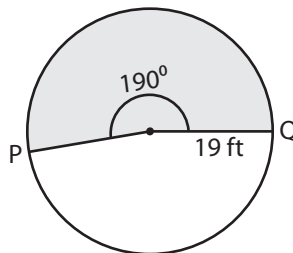
Length of the arc AB = **20.76 in**
 Area of a sector = **145.31 in²**

7)



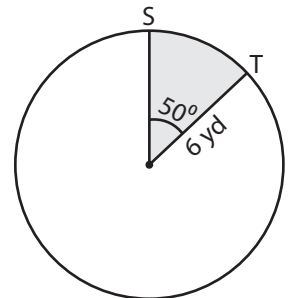
Length of the arc CD = **24.95 in**
 Area of a sector = **137.20 in²**

8)



Length of the arc PQ = **62.97 ft**
 Area of a sector = **598.26 ft²**

9)



Length of the arc ST = **5.23 yd**
 Area of a sector = **15.7 yd²**