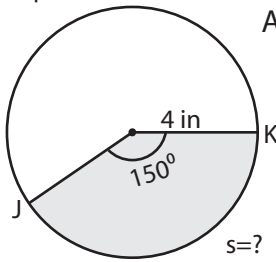


**Arc Length and Area of a Sector**

Example:

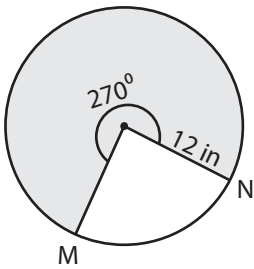


$$\begin{aligned} \text{Arc length of a sector (s)} &= \frac{\theta \times \pi \times r}{180^\circ} \\ &= \frac{150^\circ \times 3.14 \times 4}{180^\circ} \\ &= \mathbf{10.47 \text{ in}} \end{aligned}$$

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

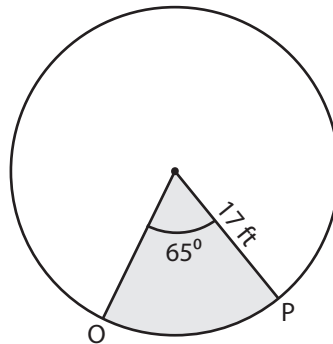
Find the length of the arc and area of the shaded region. Round the answer to two decimal places. ( use  $\pi = 3.14$  )

1)



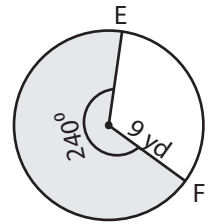
Length of the arc MN = \_\_\_\_\_  
Area of a sector = \_\_\_\_\_

2)



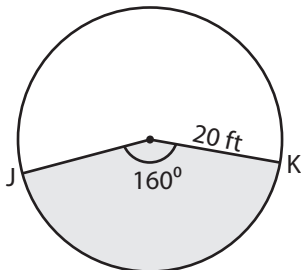
Length of the arc OP = \_\_\_\_\_  
Area of a sector = \_\_\_\_\_

3)



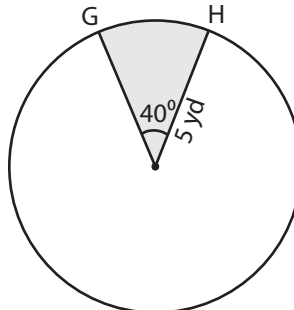
Length of the arc EF = \_\_\_\_\_  
Area of a sector = \_\_\_\_\_

4)



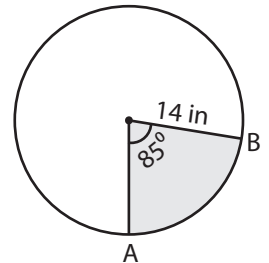
Length of the arc JK = \_\_\_\_\_  
Area of a sector = \_\_\_\_\_

5)



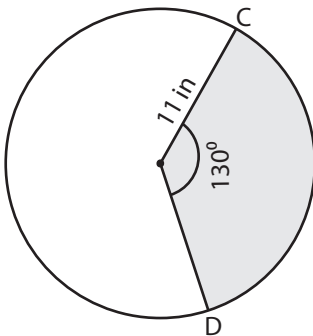
Length of the arc GH = \_\_\_\_\_  
Area of a sector = \_\_\_\_\_

6)



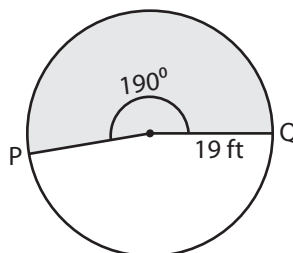
Length of the arc AB = \_\_\_\_\_  
Area of a sector = \_\_\_\_\_

7)



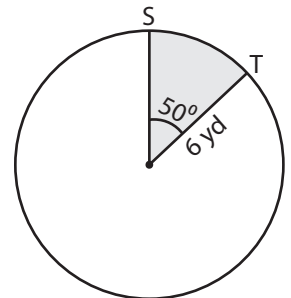
Length of the arc CD = \_\_\_\_\_  
Area of a sector = \_\_\_\_\_

8)



Length of the arc PQ = \_\_\_\_\_  
Area of a sector = \_\_\_\_\_

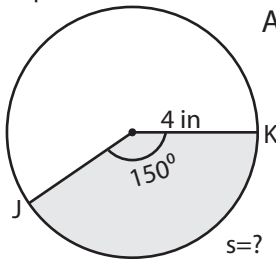
9)



Length of the arc ST = \_\_\_\_\_  
Area of a sector = \_\_\_\_\_

**Arc Length and Area of a Sector**

Example:

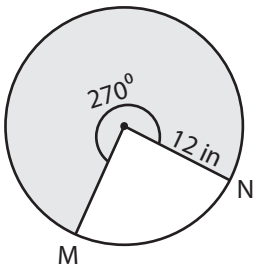


$$\begin{aligned} \text{Arc length of a sector (s)} &= \frac{\theta \times \pi \times r}{180^\circ} \\ &= \frac{150^\circ \times 3.14 \times 4}{180^\circ} \\ &= \mathbf{10.47 \text{ in}} \end{aligned}$$

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

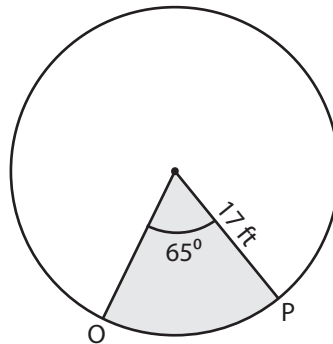
Find the length of the arc and area of the shaded region. Round the answer to two decimal places. ( use  $\pi = 3.14$  )

1)



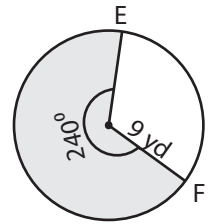
Length of the arc MN = **56.52 in**  
 Area of a sector = **339.12 in<sup>2</sup>**

2)



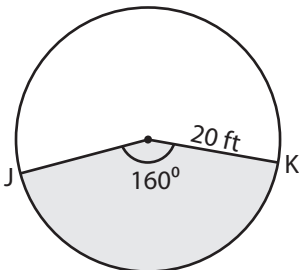
Length of the arc OP = **19.28 ft**  
 Area of a sector = **163.85 ft<sup>2</sup>**

3)



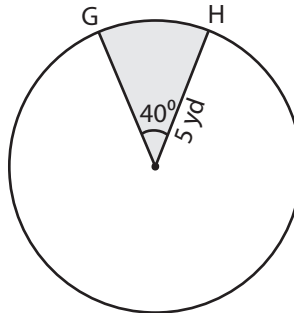
Length of the arc EF = **37.68 yd**  
 Area of a sector = **169.56 yd<sup>2</sup>**

4)



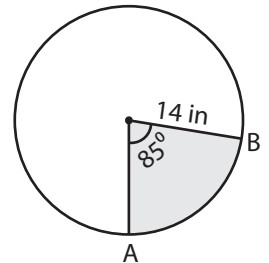
Length of the arc JK = **55.82 ft**  
 Area of a sector = **558.22 ft<sup>2</sup>**

5)



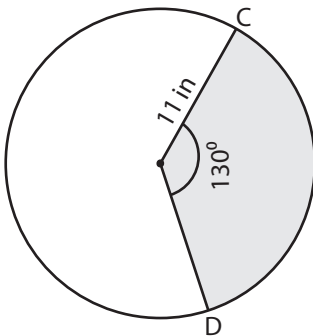
Length of the arc GH = **3.49 yd**  
 Area of a sector = **8.72 yd<sup>2</sup>**

6)



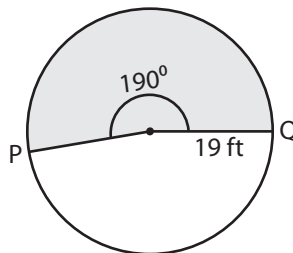
Length of the arc AB = **20.76 in**  
 Area of a sector = **145.31 in<sup>2</sup>**

7)



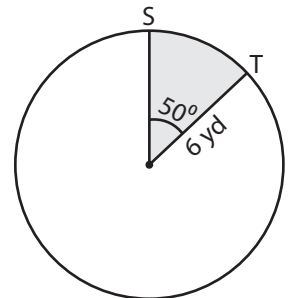
Length of the arc CD = **24.95 in**  
 Area of a sector = **137.20 in<sup>2</sup>**

8)



Length of the arc PQ = **62.97 ft**  
 Area of a sector = **598.26 ft<sup>2</sup>**

9)



Length of the arc ST = **5.23 yd**  
 Area of a sector = **15.7 yd<sup>2</sup>**