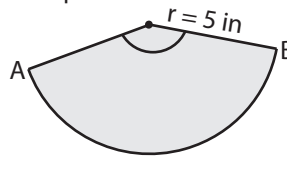


Finding Arc Length

Example:



Area of a sector = $\frac{\theta \times \pi \times r^2}{360^\circ}$

$32.71 = \frac{\theta \times 3.14 \times 5 \times 5}{360^\circ}$

$\theta = 150^\circ$

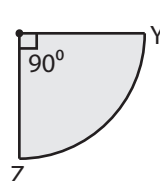
Length of the arc AB = $\frac{\theta \times \pi \times r}{180^\circ}$

$= \frac{150^\circ \times 3.14 \times 5}{180^\circ}$

= 13.08 in

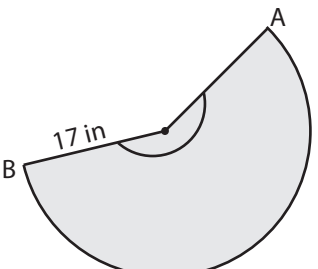
Area = 32.71 in²
s = ?

Find the arc length for each sector. Round the answer to two decimal places. (use $\pi=3.14$)

1) 

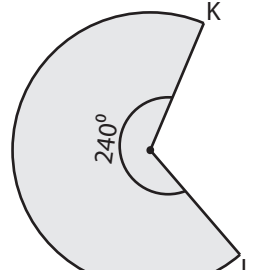
Area = 153.86 yd²

Length of the arc YZ = _____

2) 

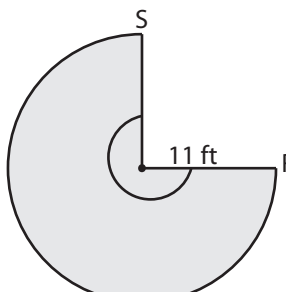
Area = 529.35 in²

Length of the arc AB = _____

3) 

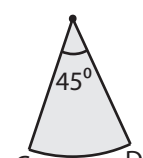
Area = 52.33 ft²

Length of the arc KL = _____

4) 

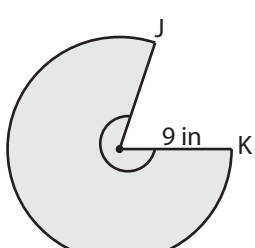
Area = 284.96 ft²

Length of the arc RS = _____

5) 

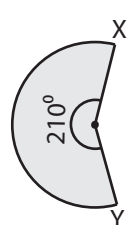
Area = 14.13 yd²

Length of the arc CD = _____

6) 

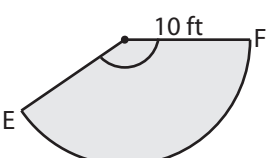
Area = 201.35 in²

Length of the arc JK = _____

7) 

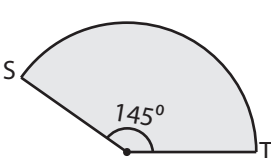
Area = 412.13 in²

Length of the arc XY = _____

8) 

Area = 130.83 ft²

Length of the arc EF = _____

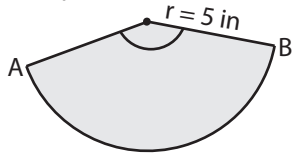
9) 

Area = 20.24 yd²

Length of the arc ST = _____

Finding Arc Length

Example:



Area = 32.71 in²
s = ?

$$\text{Area of a sector} = \frac{\theta \times \pi \times r^2}{360^\circ}$$

$$32.71 = \frac{\theta \times 3.14 \times 5 \times 5}{360^\circ}$$

$$\theta = \mathbf{150^\circ}$$

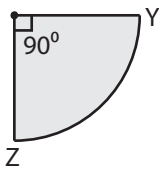
$$\text{Length of the arc AB} = \frac{\theta \times \pi \times r}{180^\circ}$$

$$= \frac{150^\circ \times 3.14 \times 5}{180^\circ}$$

$$= \mathbf{13.08 \text{ in}}$$

Find the arc length for each sector. Round the answer to two decimal places. (use $\pi=3.14$)

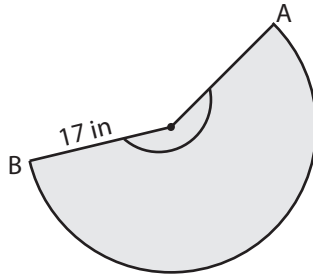
1)



Area = 153.86 yd²

Length of the arc YZ = **21.98 yd**

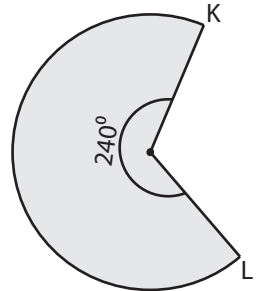
2)



Area = 529.35 in²

Length of the arc AB = **62.28 in**

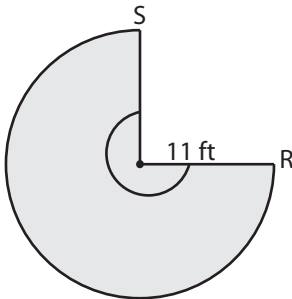
3)



Area = 52.33 ft²

Length of the arc KL = **20.93 ft**

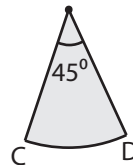
4)



Area = 284.96 ft²

Length of the arc RS = **51.81 ft**

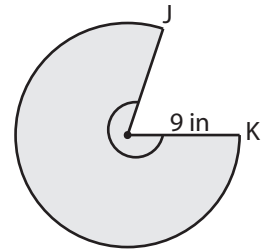
5)



Area = 14.13 yd²

Length of the arc CD = **4.71 yd**

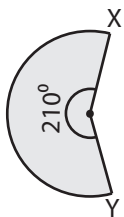
6)



Area = 201.35 in²

Length of the arc JK = **44.75 in**

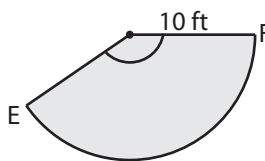
7)



Area = 412.13 in²

Length of the arc XY = **54.95 in**

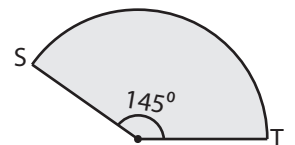
8)



Area = 130.83 ft²

Length of the arc EF = **26.17 ft**

9)



Area = 20.24 yd²

Length of the arc ST = **10.12 yd**