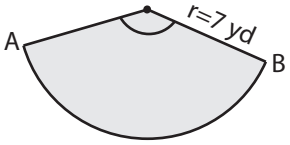
Name : _____ Score : _____

Finding Arc Length

Sheet 3

Example:



Area = 59.85 yd²
s=?

Area of a sector = $\frac{\theta \times \pi \times r^2}{360^0}$

$59.85 = \frac{\theta \times 3.14 \times 7 \times 7}{360^0}$

$\theta = \mathbf{140^0}$

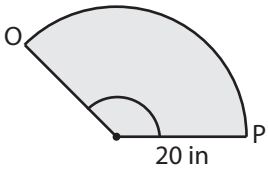
Length of the arc AB = $\frac{\theta \times \pi \times r}{180^0}$

$= \frac{140^0 \times 3.14 \times 7}{180^0}$

$= \mathbf{17.10\ yd}$

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

1)

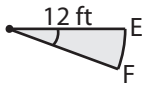


Area = 471 in²

Length of the arc OP = _____

2)

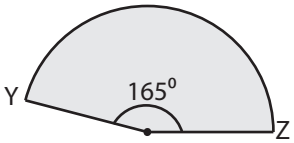
3)



Area = 25.12 ft²

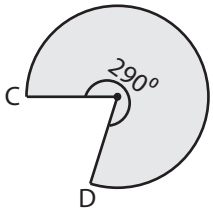
th of the arc EF = _____

4)



Area = 323.81 ft

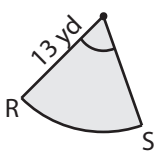
Length of the arc YZ = _____



Area = 204.89 yd²

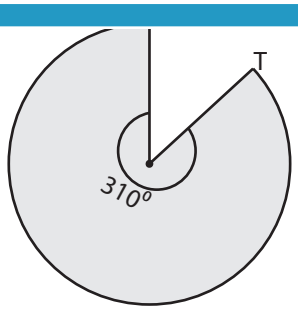
th of the arc CD = _____

7)



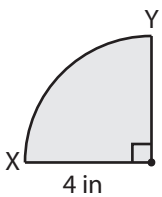
Area = 95.81 yd²

Length of the arc RS = _____



Area = 692.20 ft²

Length of the arc ST = _____



Area = 12.56 in²

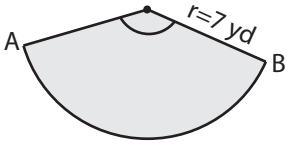
Length of the arc XY = _____

Name : _____ **Answer Key** Score : _____

Sheet 3

Finding Arc Length

Example:



Area = 59.85 yd²
s=?

Area of a sector = $\frac{\theta \times \pi \times r^2}{360^0}$

$59.85 = \frac{\theta \times 3.14 \times 7 \times 7}{360^0}$

$\theta = \mathbf{140^0}$

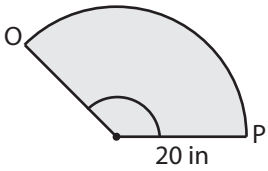
Length of the arc AB = $\frac{\theta \times \pi \times r}{180^0}$

$= \frac{140^0 \times 3.14 \times 7}{180^0}$

$= \mathbf{17.10\ yd}$

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

1)

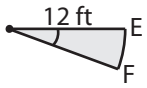


Area = 471 in²

Length of the arc OP = **47.1**

2)

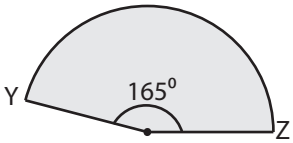
3)



Area = 25.12 ft²

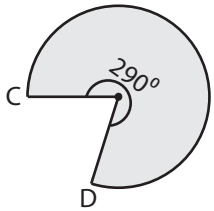
th of the arc EF = **4.19 ft**

4)



Area = 323.81 ft

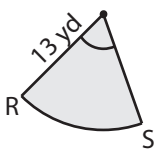
Length of the arc YZ = **43.18**



Area = 204.89 yd²

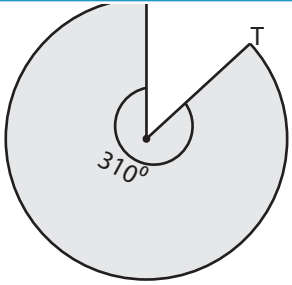
th of the arc CD = **45.53 yd**

7)



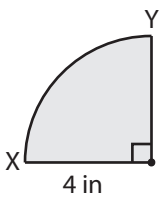
Area = 95.81 yd²

Length of the arc RS = **14.74 yd**



Area = 692.20 ft²

Length of the arc ST = **86.52 ft**



Area = 12.56 in²

Length of the arc XY = **6.28 in**