Name : _____

Score : _____

Finding Area of a Sector

Example:

Length of the arc=33.27 ft

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

$$33.27 = \frac{210^0 \times 3.14 \times r}{180^0}$$

r = **9 ft**

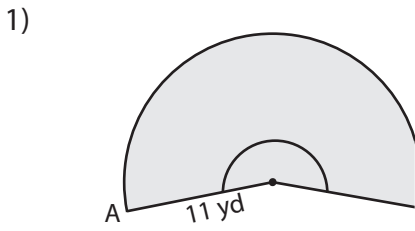$$\text{Area of a sector} = \frac{\theta \times \pi \times r^2}{360^0}$$

$$= \frac{210 \times 3.14 \times 9 \times 9}{360^0}$$

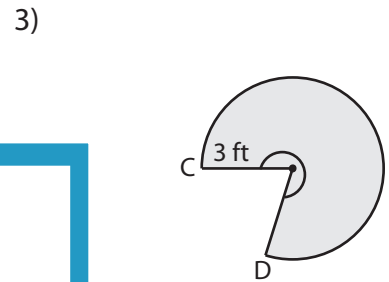= **148.37 ft²**

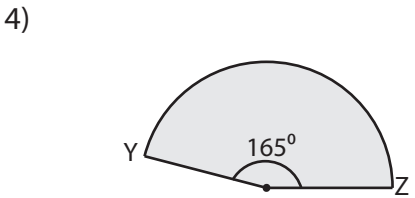Find the area of each shaded region. Round the answer to two decimal places. (use π=3.14)

1)

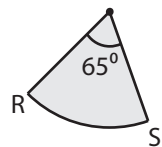

A   11 yd

Length of the arc AB = 38.38 y⎜

Area = _____
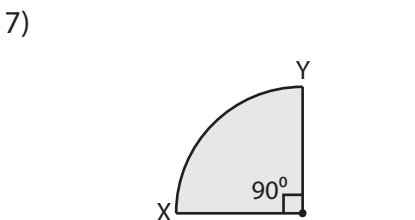
2)

C

Length of the arc CD = 15.18 ft

Area = _____

3)

C   3 ft

D

th of the arc CD = 15.18 ft

Area = _____

4)

Y   165⁰   Z

Length of the arc YZ = 37.42 in

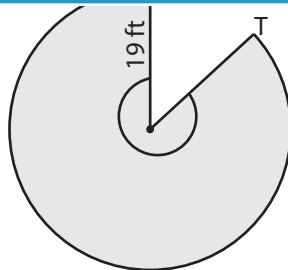Area = _____

6)

65⁰

R   S

th of the arc RS = 9.07 ft

Area = _____

7)

Y

90⁰

X

Length of the arc XY = 25.12 yd

Area = _____

8)

19 ft

T

Length of the arc ST = 102.75 ft

Area = _____

9)

4 in   E

F

Length of the arc EF = 23.72 in

Area = _____

PREVIEW

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Answer Key

Finding Area of a Sector

Example:

210^0 Area=?

A

B

Length of the arc=33.27 ft

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

$33.27 = \dfrac{210^0 \times 3.14 \times r}{180^0}$
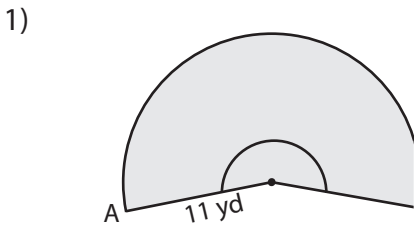
r = **9 ft**

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

$= \dfrac{210 \times 3.14 \times 9 \times 9}{360^0}$

$=$ **148.37 ft^2**

Find the area of each shaded region. Round the answer to two decimal places. (use π=3.14)

1)

A 11 yd

Length of the arc AB = 38.38 y[...]

Area = **211.0**[...]

2)

C

3)

C 3 ft

D

[...]th of the arc CD = 15.18 ft

Area = **22.77 ft^2**

4)

Y 165^0 Z

Length of the arc YZ = 37.42 in[...]

Area = **243.2**[...]

R 65^0 S

[...]th of the arc RS = 9.07 ft

Area = **36.28 ft^2**

7)

Y

X 90^0

Length of the arc XY = 25.12 yd

Area = **200.96 yd^2**

19 ft T
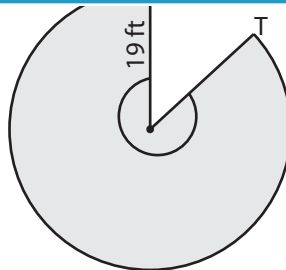
Length of the arc ST = 102.75 ft

Area = **976.10 ft^2**

E

4 in

F
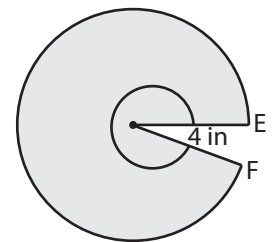
Length of the arc EF = 23.72 in
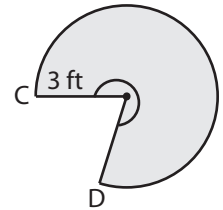
Area = **47.45 in^2**

PREVIEW

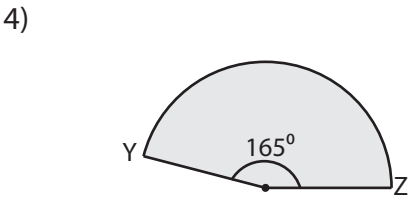Gain complete access to the largest collection of worksheets in all subjects!

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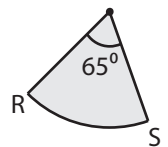Not a member? Please sign up to gain complete access.
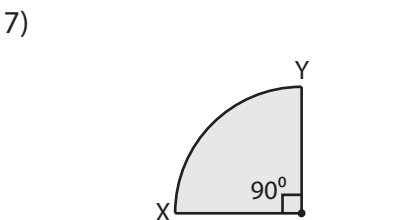
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