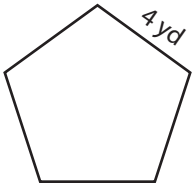
Name : _____

Area of a Polygon

Sheet 5

Example:

Find the area of the polygon.



$$\text{Area} = \frac{s^2 \times n}{4\left[\tan\left(\frac{180}{n}\right)\right]}$$

s = side length
n = number of sides

$$= \frac{16 \times 5}{4\left[\tan\left(\frac{180}{5}\right)\right]} = \mathbf{27.53\ yd^2}$$

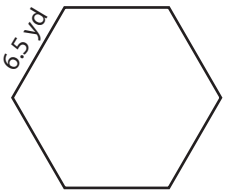
Find the area of each polygon using the given side length. Round your answer to two decimal places.

1)

Area = _____

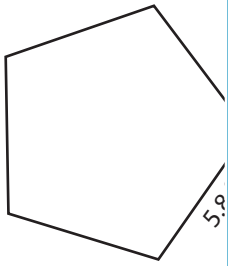
2)

3)

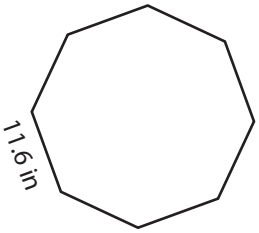


Area = _____

4)

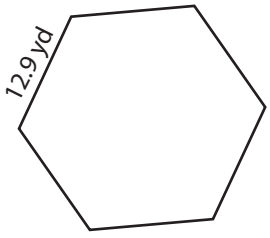


Area = _____



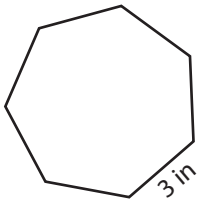
Area = _____

7)



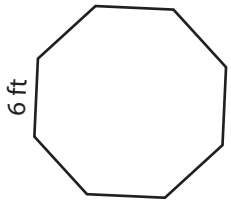
Area = _____

8)



Area = _____

9)



Area = _____

Name : _____

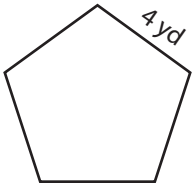
Answer key

Sheet 5

Area of a Polygon

Example:

Find the area of the polygon.



$$\text{Area} = \frac{s^2 \times n}{4\left[\tan\left(\frac{180}{n}\right)\right]}$$

s = side length
n = number of sides

$$= \frac{16 \times 5}{4\left[\tan\left(\frac{180}{5}\right)\right]} = \mathbf{27.53\ yd^2}$$

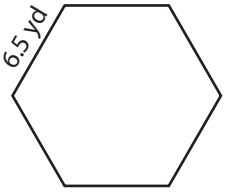
Find the area of each polygon using the given side length. Round your answer to two decimal places.

1)

Area = **400 in²**

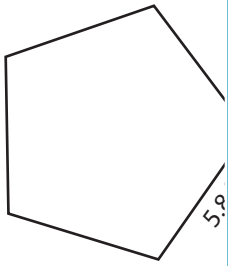
2)

3)

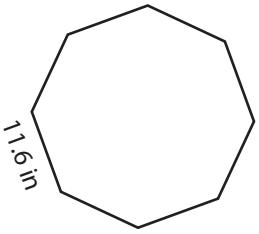


Area = **109.77 yd²**

4)

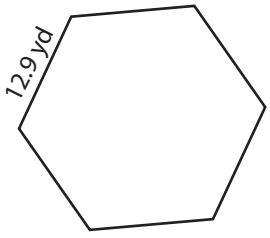


Area = **57.88 ft²**



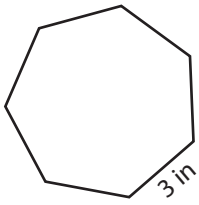
Area = **649.71 in²**

7)



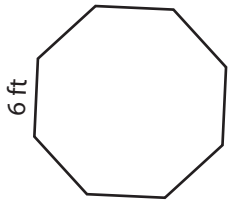
Area = **432.35 yd²**

8)



Area = **32.71 in²**

9)



Area = **173.82 ft²**