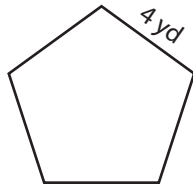


Name : \_\_\_\_\_

## Area of a Polygon

Example:

Find the area of the polygon.

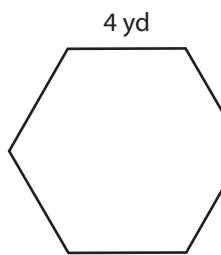


$$\begin{aligned} \text{Area} &= \frac{s^2 \times n}{4 \left[ \tan \left( \frac{180}{n} \right) \right]} \\ &= \frac{16 \times 5}{4 \left[ \tan \left( \frac{180}{5} \right) \right]} = 27.53 \text{ yd}^2 \end{aligned}$$

s = side length  
n = number of sides

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

1)



Area = \_\_\_\_\_

2)

# PREVIEW

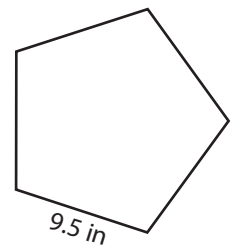
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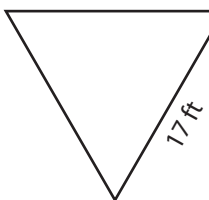
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3)

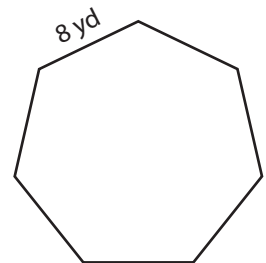


Area = \_\_\_\_\_

4)

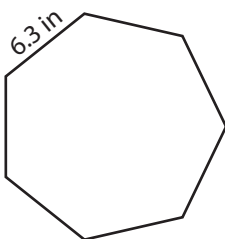


Area = \_\_\_\_\_



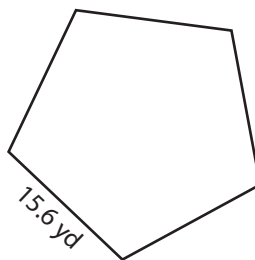
Area = \_\_\_\_\_

7)



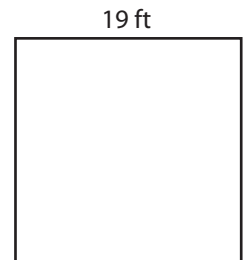
Area = \_\_\_\_\_

8)



Area = \_\_\_\_\_

9)

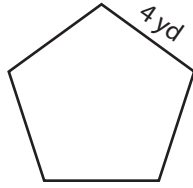


Area = \_\_\_\_\_

**Area of a Polygon**

Example:

Find the area of the polygon.

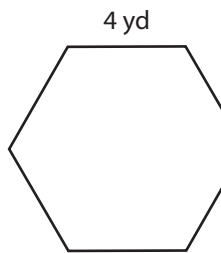


$$\begin{aligned} \text{Area} &= \frac{s^2 \times n}{4 \left[ \tan \left( \frac{180}{n} \right) \right]} \\ &= \frac{16 \times 5}{4 \left[ \tan \left( \frac{180}{5} \right) \right]} = \mathbf{27.53 \text{ yd}^2} \end{aligned}$$

s = side length  
n = number of sides

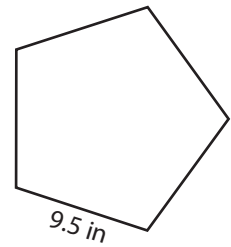
Find the area of each polygon using the given side length. Round your answer to two decimal places.

1)



Area = 41.57 yd<sup>2</sup>

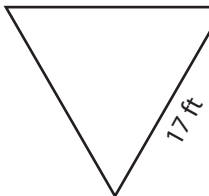
2)



Area = 155.28 in<sup>2</sup>

3)

4)



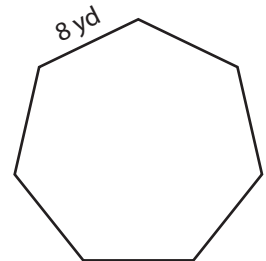
Area = 125.14 ft<sup>2</sup>

**PREVIEW**

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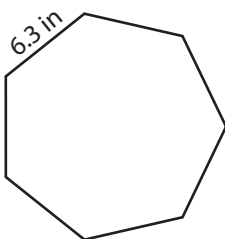
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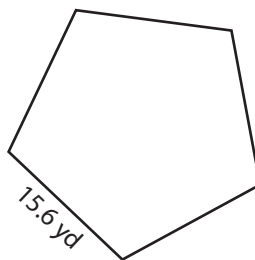
Area = 232.56 yd<sup>2</sup>

7)



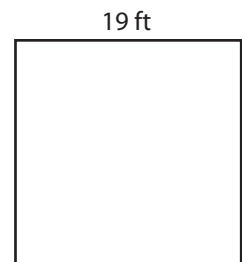
Area = 144.22 in<sup>2</sup>

8)



Area = 418.72 yd<sup>2</sup>

9)



Area = 361 ft<sup>2</sup>