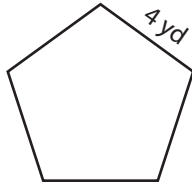


Name : _____

Area of a Polygon

Example:

Find the area of the polygon.

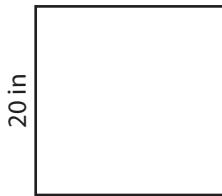


$$\begin{aligned} \text{Area} &= \frac{s^2 \times n}{4 \left[\tan \left(\frac{180}{n} \right) \right]} \\ &= \frac{16 \times 5}{4 \left[\tan \left(\frac{180}{5} \right) \right]} = 27.53 \text{ yd}^2 \end{aligned}$$

s = side length
n = number of sides

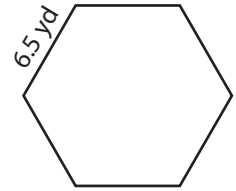
Find the area of each polygon using the given side length. Round your answer to two decimal places.

1)



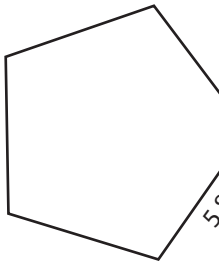
Area = _____

2)



Area = _____

4)



Area = _____

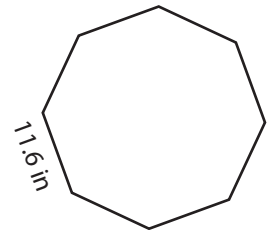
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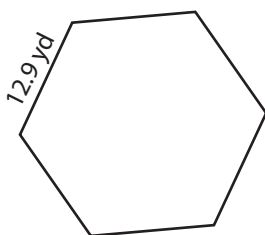
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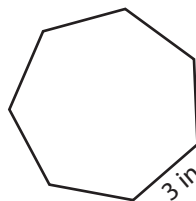
Area = _____

7)



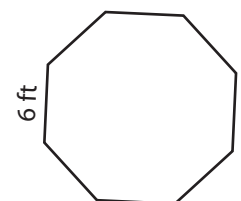
Area = _____

8)



Area = _____

9)

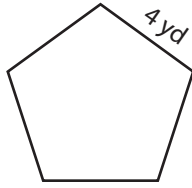


Area = _____

Area of a Polygon

Example:

Find the area of the polygon.

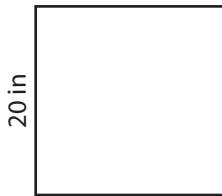


$$\begin{aligned} \text{Area} &= \frac{s^2 \times n}{4 \left[\tan \left(\frac{180}{n} \right) \right]} \\ &= \frac{16 \times 5}{4 \left[\tan \left(\frac{180}{5} \right) \right]} = \mathbf{27.53 \text{ yd}^2} \end{aligned}$$

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)



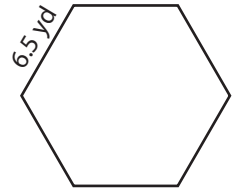
Area = 400 in²

2)

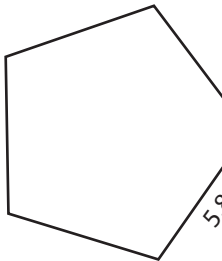


Area = 109.77 yd²

3)

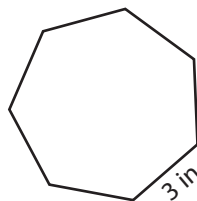


4)



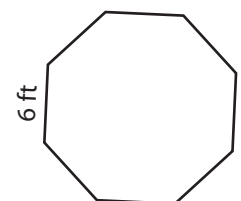
Area = 57.88 ft²

8)



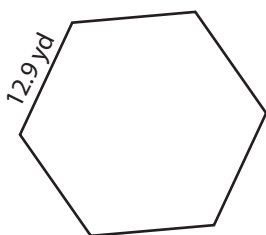
Area = 32.71 in²

9)



Area = 173.82 ft²

7)



Area = 432.35 yd²

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