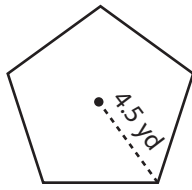


Name : \_\_\_\_\_

## Area of a Polygon

**Example:**

Find the area of the polygon.



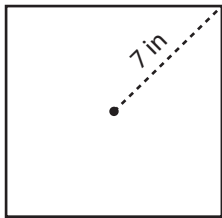
$$\text{Area} = \frac{r^2 \times n \times \sin\left(\frac{360}{n}\right)}{2}$$

$$= \frac{20.25 \times 5 \times \sin\left(\frac{360}{5}\right)}{2} = 48.15 \text{ yd}^2$$

r = circumradius  
n = number of sides

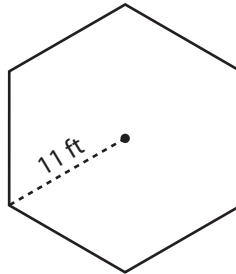
Find the area of each polygon using the given circumradius. Round your answer to two decimal places.

1)



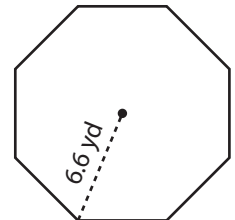
Area = \_\_\_\_\_

2)



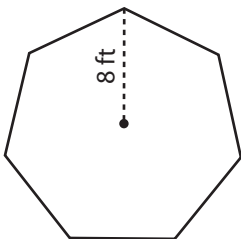
Area = \_\_\_\_\_

3)



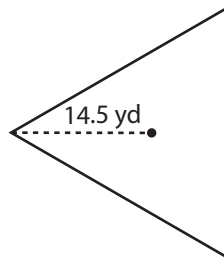
Area = \_\_\_\_\_

4)



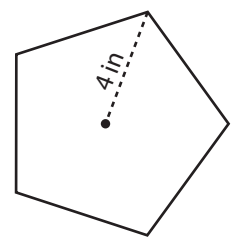
Area = \_\_\_\_\_

5)



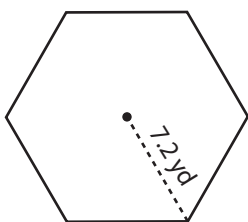
Area = \_\_\_\_\_

6)



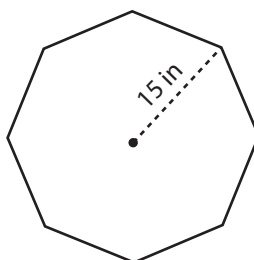
Area = \_\_\_\_\_

7)



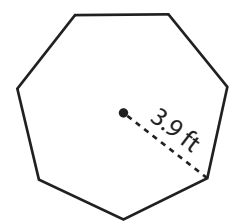
Area = \_\_\_\_\_

8)



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

9)



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

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

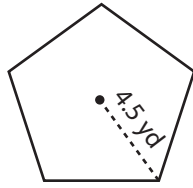
## Answer key

Sheet 1

### Area of a Polygon

**Example:**

Find the area of the polygon.



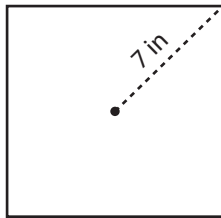
$$\text{Area} = \frac{r^2 \times n \times \sin\left(\frac{360}{n}\right)}{2}$$

$$= \frac{20.25 \times 5 \times \sin\left(\frac{360}{5}\right)}{2} = 48.15 \text{ yd}^2$$

r = circumradius  
n = number of sides

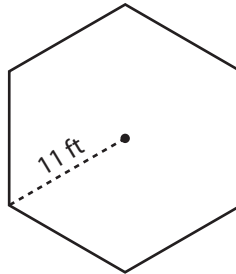
Find the area of each polygon using the given circumradius. Round your answer to two decimal places.

1)



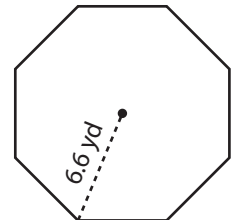
Area = 98 in<sup>2</sup>

2)



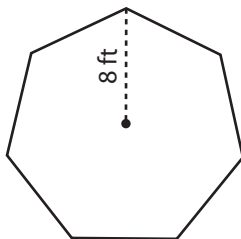
Area = 314.37 ft<sup>2</sup>

3)



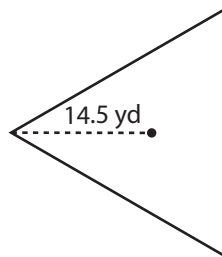
Area = 123.21 yd<sup>2</sup>

4)



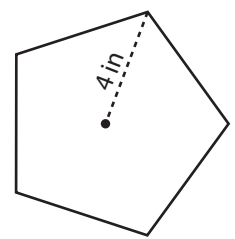
Area = 175.13 ft<sup>2</sup>

5)



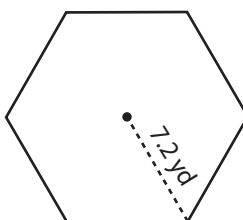
Area = 273.12 yd<sup>2</sup>

6)



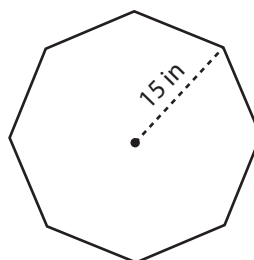
Area = 38.04 in<sup>2</sup>

7)



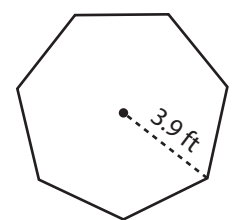
Area = 134.68 yd<sup>2</sup>

8)



Area = 636.4 in<sup>2</sup>

9)



Area = 41.62 ft<sup>2</sup>