Name: _____ Hour: _____

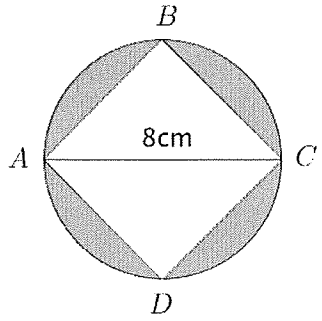
# Area of Regular Polygons EXAMPLES Worksheet

Directions: Find the area of the regular polygon. Show all work. Find exact values when possible.

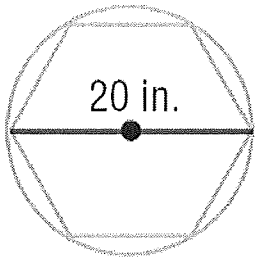
1. Find the area of a **regular triangle** with perimeter of 54 km.

Directions: Find the area of the shaded region. Show all work.

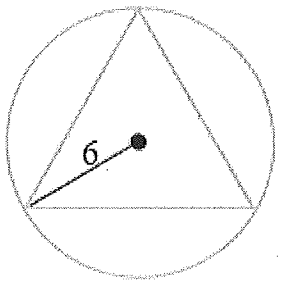
2.



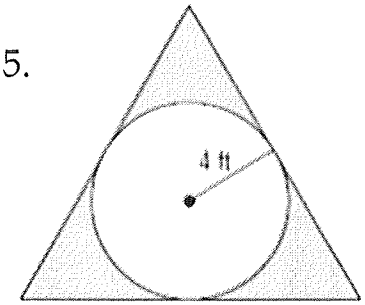

3.



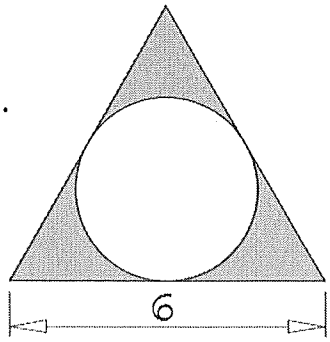

4.



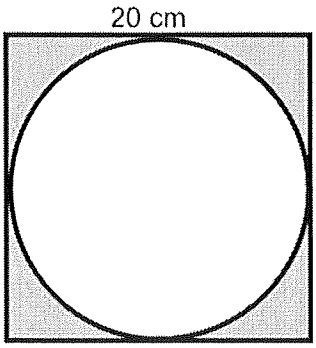
5.




6.




7.

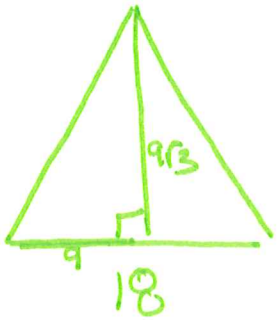


Name: Key Hour: _____

# Area of Regular Polygons EXAMPLES Worksheet

Directions: Find the area of the regular polygon. Show all work. Find exact values when possible.

1. Find the area of a **regular triangle** with perimeter of 54 km.

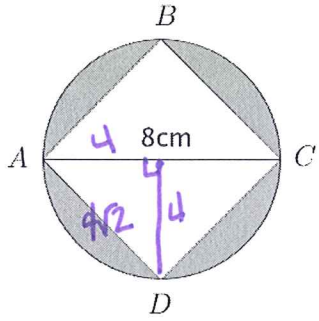



$A = \frac{1}{2} 18 \cdot 9\sqrt{3}$

$A = 81\sqrt{3}\ km^2$

Directions: Find the area of the shaded region. Show all work.

2.

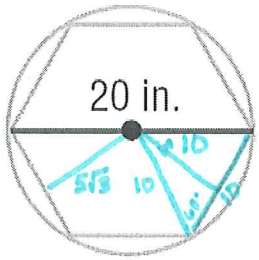



$A = \pi 4^2 - 4\sqrt{2} \cdot 4\sqrt{2}$

$A = 16\pi - 32\ cm^2$

$A \approx 18.265\ cm^2$

3.

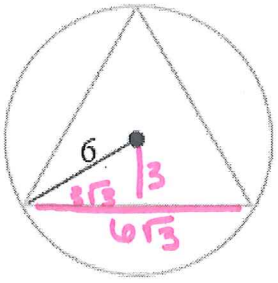



$A = \pi 10^2 - 6 \cdot \frac{1}{2} \cdot 10 \cdot 5\sqrt{3}$

$A = 100\pi - 150\sqrt{3}\ in^2$

$A \approx 54.352\ in^2$

4.

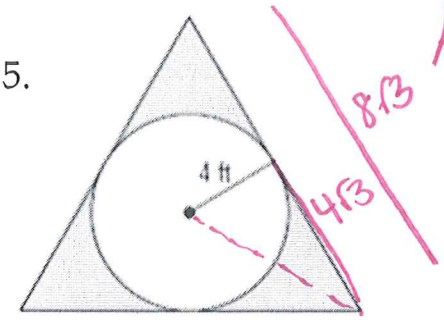



$A = \pi 6^2 - 3\frac{1}{2} 6\sqrt{3} \cdot 3$

$A = 36\pi - 27\sqrt{3}\ units^2$

$A \approx 66.332\ u^2$

5.

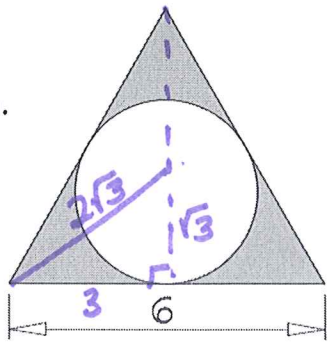



$A = 3\frac{1}{2}8\sqrt{3}\cdot 4 - \pi 4^2$

$\boxed{A = 48\sqrt{3} - 16\pi \text{ ft}^2}$

$A = 32.873 \text{ ft}^2$

6.

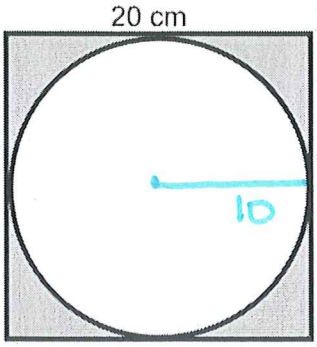



$A = 3\frac{1}{2}6\cdot\sqrt{3} - \pi\sqrt{3}^2$

$\boxed{A = 9\sqrt{3} - 3\pi \text{ units}^2}$

$A \approx 6.164 \text{ units}^2$

7.




$A = 20\cdot 20 - \pi 10^2$

$\boxed{A = 400 - 100\pi \text{ cm}^2}$

$A \approx 85.841 \text{ cm}$