

# Geometry

## 11.5 Areas of Regular Polygons (11.3)

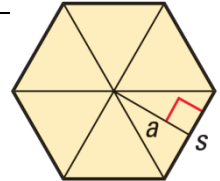
Apothem

- A segment drawn from the \_\_\_\_\_ of a regular polygon \_\_\_\_\_ to the \_\_\_\_\_ (also bisects edge)

### Area of a Regular Polygon

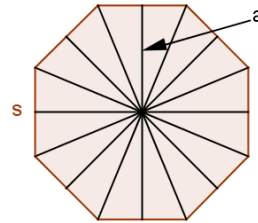
$A = \frac{1}{2} P a$

Where  $P$  is the \_\_\_\_\_ and  $a$  is the \_\_\_\_\_

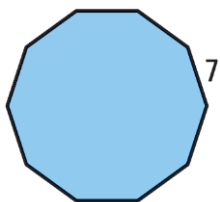
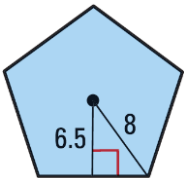


### Typical steps to find area of regular polygon

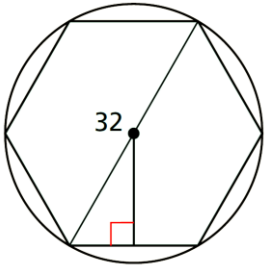
1. Find  $\frac{1}{2}$  of \_\_\_\_\_ angle  
 $\frac{1}{2} \left( \frac{360}{n} \right)$
2. Use trigonometry to find \_\_\_\_\_  
 tan, sin, cos
3. Find \_\_\_\_\_  
 $P = ns$
4.  $A = \frac{1}{2} P a$



Find the area of the regular polygon.



A regular hexagon is inscribed in a circle with a diameter of 32 units. Find the area of the hexagon.



Assignment: 600 #6, 8, 10, 12, 13, 18, 20, 22, 24, 26, 27, 28, 53, 54, 57, 63 = 16 total