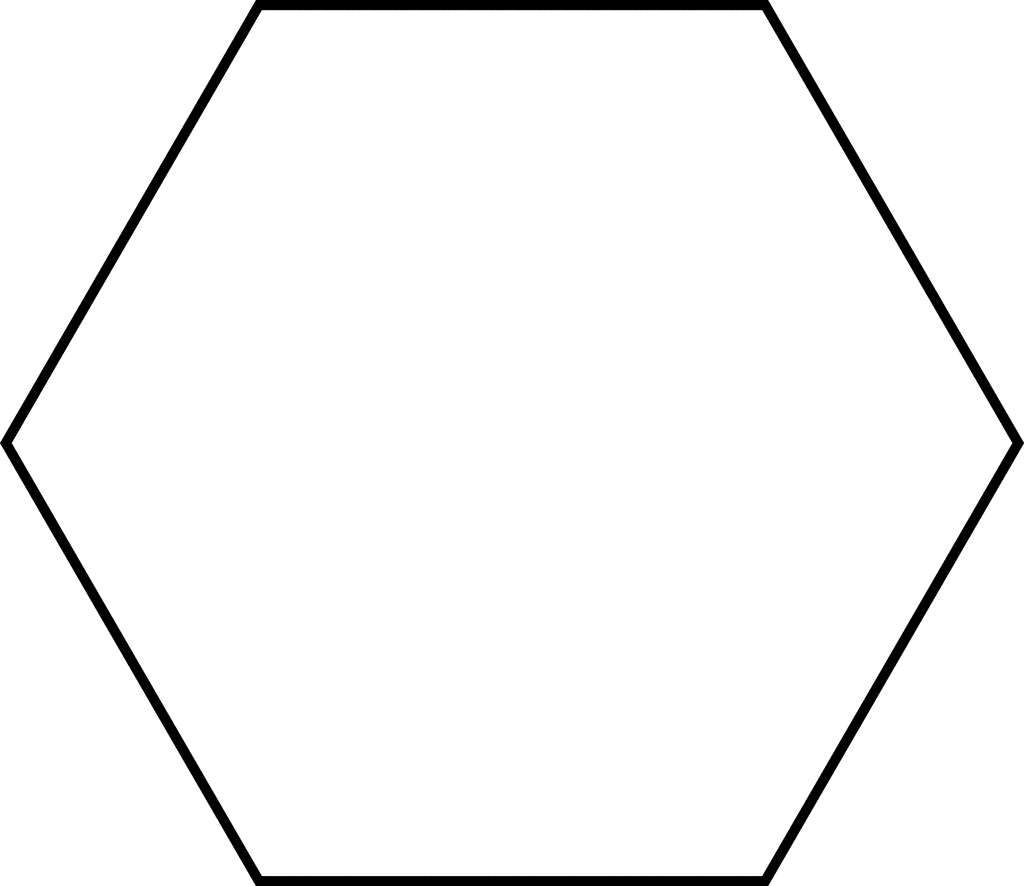
Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Ms. Liefland Period \_\_\_\_\_\_ 2/28/13

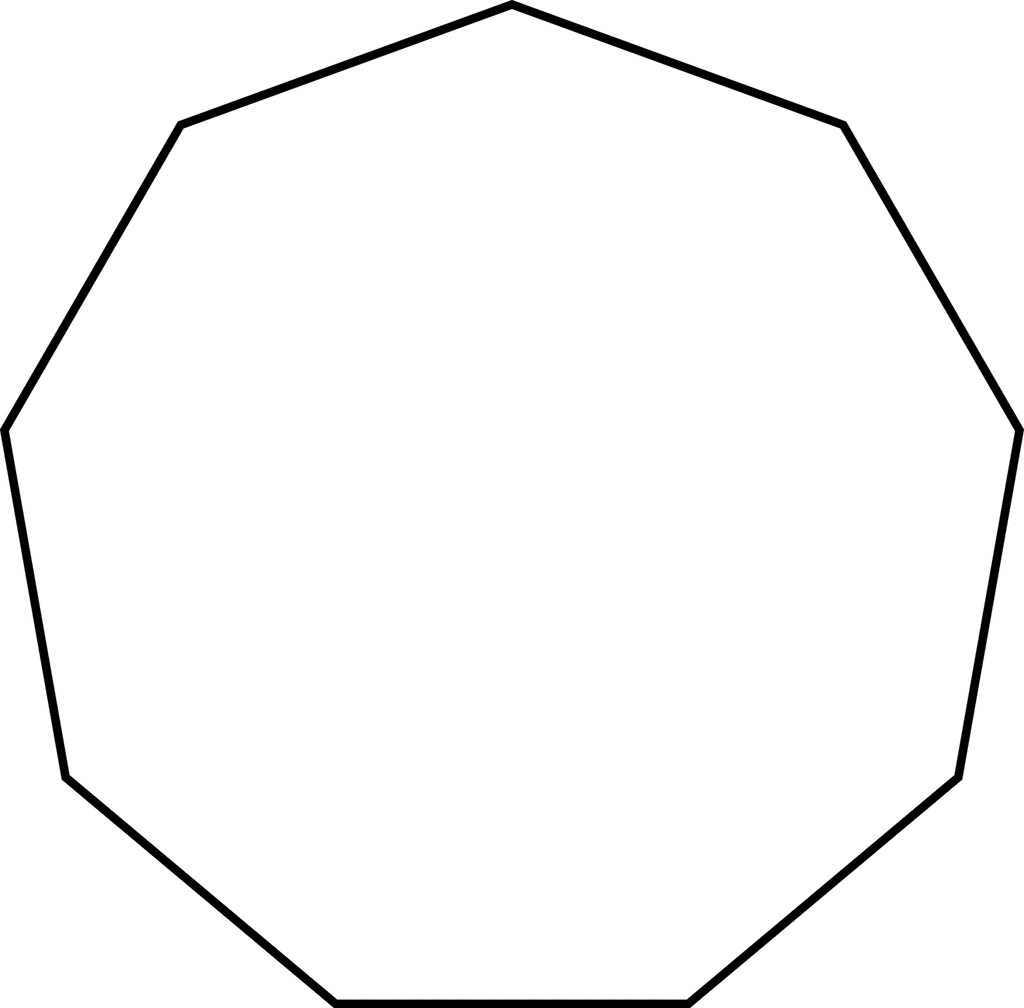
**Perimeter and Area of Regular Polygons   
A = ½ n s a A = ½ a P SOH CAH TOA**

1. One **central angle** in a regular **hexagon** measures \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. **(360/n)**
2. One **central angle** in a regular **octagon** measures \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. **The apothem of a regular hexagon is . Label the picture.**  
     
     
      
     
     
     
     
   The length of **one side** **(s)** of this regular hexagon is therefore \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. **(Use 30-6-90)**  
     
   The **perimeter (P)** of this regular hexagon is therefore \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. (**side length** x **number of sides**)

The **area of one of the six equilateral triangles** in this regular hexagon is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Find the **area of the regular hexagon** by multiplying the area of one triangle by 6: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Find the **area** of the hexagon again by using one of the area formulas at the top of this page: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. **The apothem of a regular nonagon (9 sides) is 10 inches. Label the picture.**   
     
     
     
     
     
     
     
     
     
   The length of **one side (s)** of this regular nonagon is therefore \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. **(Uses tangent ratio)**  
     
   The **perimeter** **(P)** of this regular nonagon is therefore \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The **area of one of the nine isosceles triangles** in this regular nonagon is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The **area of the regular nonagon** is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. **(Use triangle or formula method)**