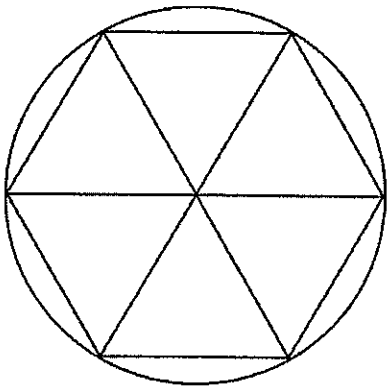
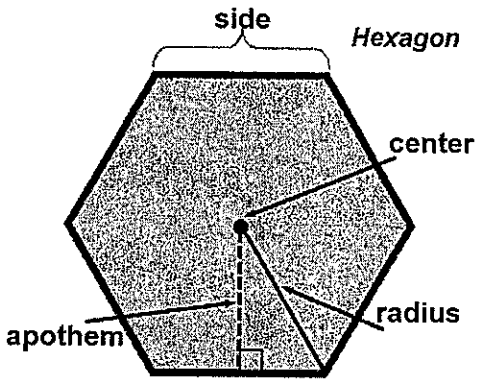
Hexagons

- Each interior angle in a hexagon is 120°.
- A hexagon can be divided equally into 6 **equilateral triangles** from the vertex to each side.
- A radius is a line from the center to a vertex.
- The radius bisects the interior angle (it cuts it in half). Therefore, the triangle has angles equal to 60°.
- Since all sides are equal in an equilateral triangle, the radius and the side length of a hexagon are the same.

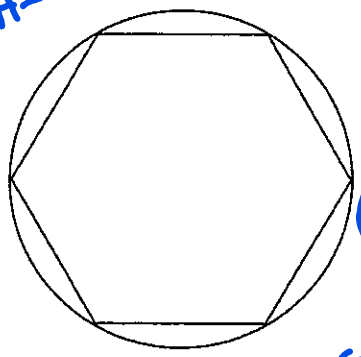




Example: A hexagon is inscribed in a circle. If the radius is 12cm and the area of the hexagon is 288 cm^2, determine the length of the apothem.

$S = 12cm$ $\quad n = 6$

A=



① $A = \frac{san}{2}$

② $288 = \frac{(12)a(6)}{2}$ $\quad \frac{576}{72} = \frac{72a}{72}$

2

③ $(288) = \left(\frac{(12)a(6)}{2}\right)2$ $\quad 8 = a$

$576 = (12)a(6)$

$a = 8cm$