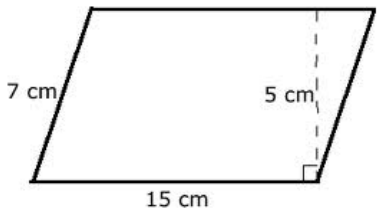
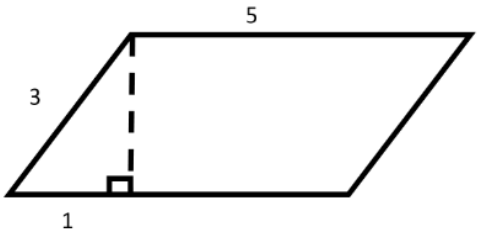
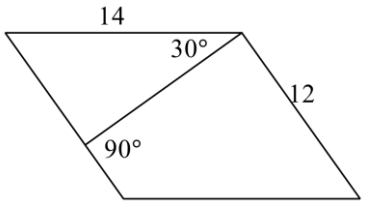
Area Unit Day #1 Notes:
Finding Area or Quadrilaterals and Equilateral Triangles

Area of parallelogram examples:

$A_{parallelogram} =$

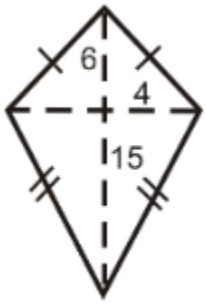
1) 

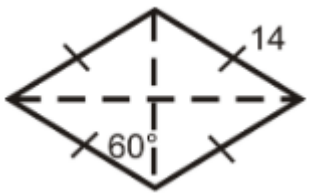
2) 

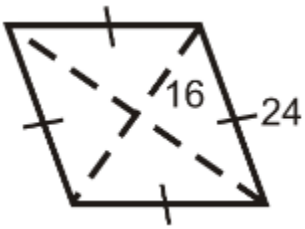
3) 

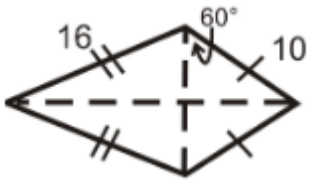
Area of rhombi and kites examples:

$A_{kite} =$

4) 

5) 

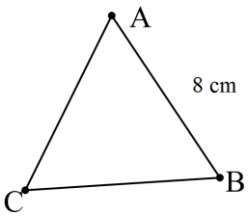
6) 

7) 

Area of equilateral triangles examples

$$A_{equilateral\ \Delta} =$$

8) Equilateral triangle

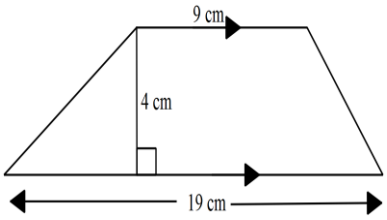


9) Equilateral triangle with a height of 12 in.

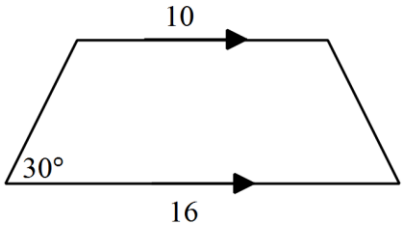
Area of trapezoid examples

$$A_{trapezoid} =$$

10) Trapezoid

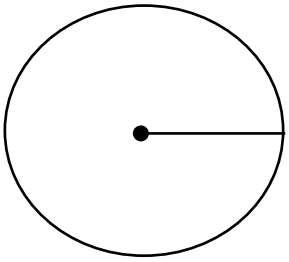


11) Isosceles Trapezoid



Area Unit Day #1 Notes:
10.3 Finding Area of Circles, Sectors, and Segments

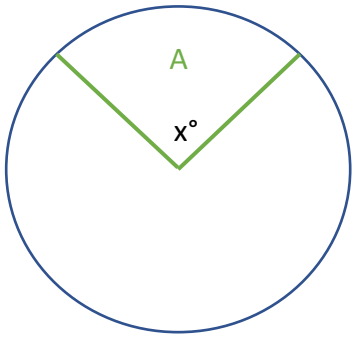
Area of a Circle:



Area of a Sector: the ratio of the area of a sector to the area of the whole circle is equal to the degree measure of the intercepted arc x and 360.

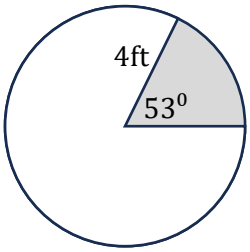
Proportion: $\frac{A}{\pi r^2} = \frac{x}{360}$

Equation: $A = \frac{x}{360}\pi r^2$

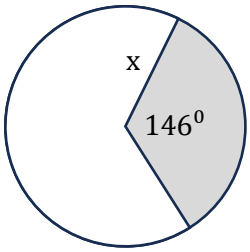


1) A pizza has a diameter of 12'' and it is cut into 8 congruent slices, what is the area of an individual slice?

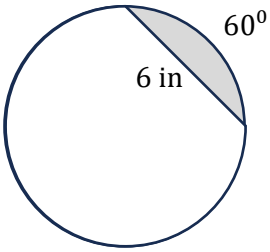
2) Find the area of the shaded sector.



3) The area of the shaded region is 72 in^2. Solve for x (round to the nearest tenth)

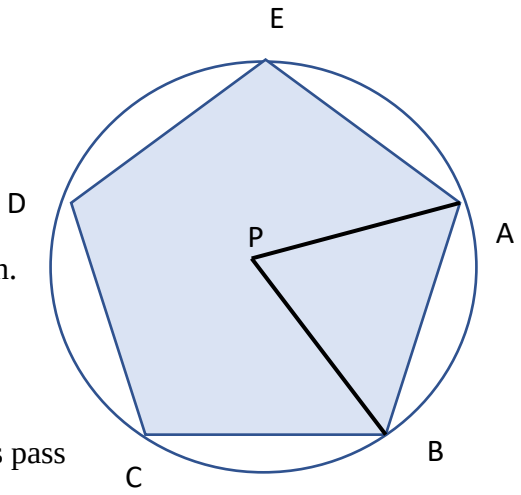


4) Find the area of the segment.



Area Unit Day #2 Notes:
10.4 Areas of Regular Polygons and Composite Figures

The center and radius of a regular polygon is also the center and radius of its circumscribed circle.



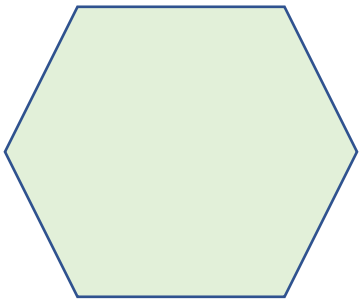
Center: Radius:

Apothem: A segment drawn perpendicular to a side of a regular polygon.

The central angle has its vertex at the center of the polygon and its sides pass through consecutive vertices of the polygon.

Measure of a central angle of a regular polygon:

Example 1: What is the area of a regular hexagon with side lengths 10 inches? Give both the exact answer and an approximate answer rounded to two decimal places.



Area Formula of a Regular Polygon:

Example 2: Find the area of a regular hexagon whose perimeter is 30 cm. Exact answer.

Example 3: Find the area of a square with an apothem of 4 inches. Exact answer.

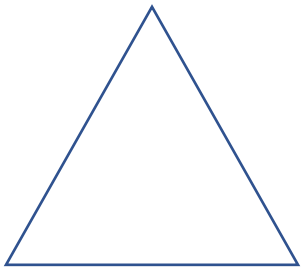
Example 4: Find the area of an equilateral triangle with a radius of 12 cm. Exact answer.

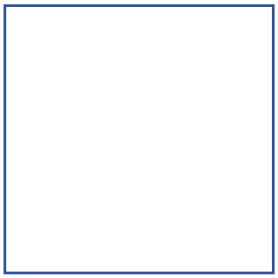
Example 5: Find the area of a regular hexagon whose side length is $20\sqrt{5}$ cm. Exact answer.

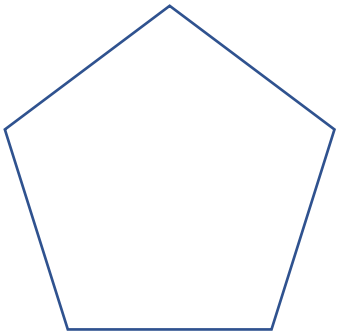
Example 6: Find the area of a decagon with a side length of 4 inches. Round to the nearest tenth.

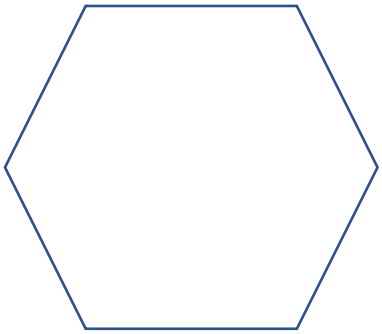
Example 7: Find the area of an octagon with a radius of 12 cm. Round to the nearest hundredth.

Summary of angles in common regular polygons:

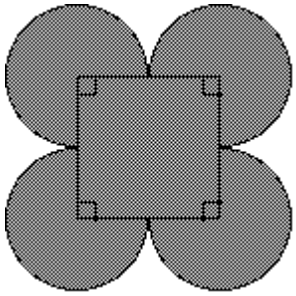




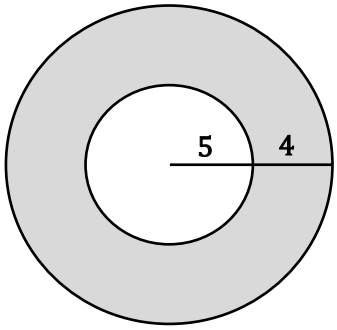




Example 8: Find the area of the shaded region if the radius of each circle is 6 cm.



Example 9: Find the area of the shaded region.



Example 10: Find the area of the shaded region if the quad is a square, and the arcs are ≅.

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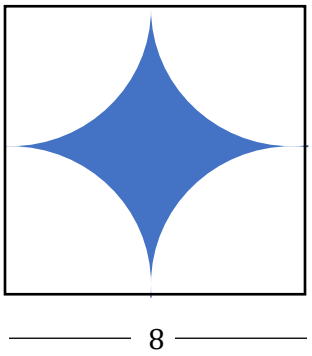
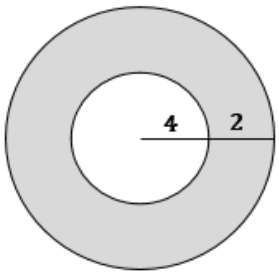


Area Unit Day #3 Notes:
Geometric Probability

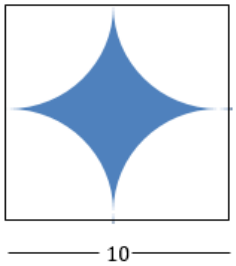
For examples #1-7:

a. Find the probability of randomly choosing a point in the shaded region (exact answer)
b. Find the probability of randomly choosing a point in the shaded region as a percentage.

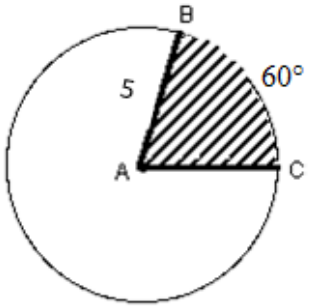
1)



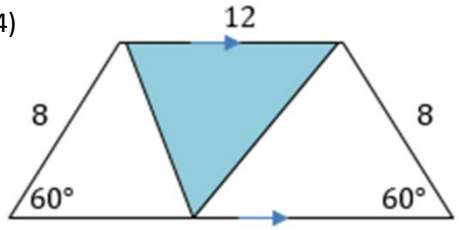
2) The quad is a square, and the arcs are ≅.



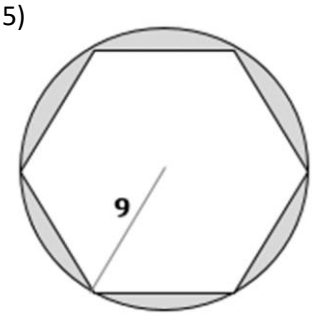
3)



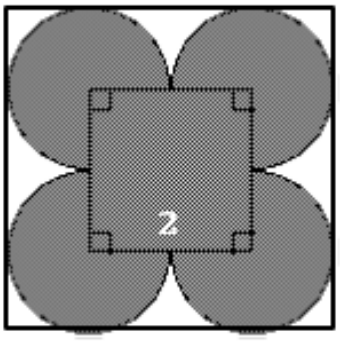
4)



5)



6)



7)