

11-4: Areas of Regular Polygons

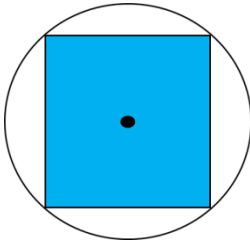
C.O.: SWBAT use theorems and equations to solve for the area of regular polygons.

L.O.: SWBAT identify various polygons, as well as find their area using equations.

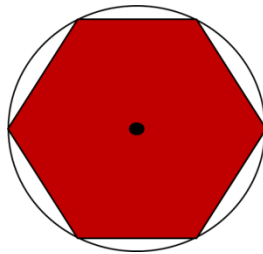
Regular Polygons:

Given any circle, you can inscribe in it a regular polygon of any number of sides.

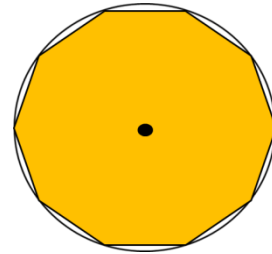
Square – 4 Sides
Central Angle:



Hexagon – 6 Sides
Central Angle:



Decagon – 10 Sides
Central Angle:

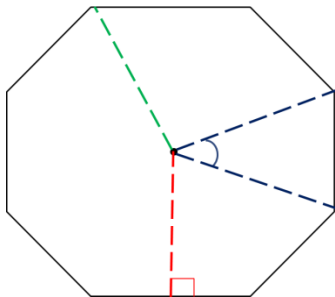


Regular Polygons - Vocabulary:

The relationship between circles and polygons leads to the following terms:

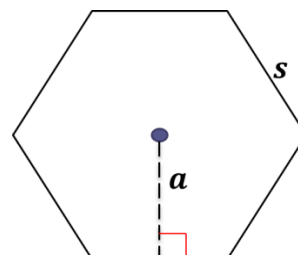
1. The _____ of a regular polygon is the center of the circle.
2. The _____ of the regular polygon is the radius of the circle.
3. A _____ of a regular polygon is an angle formed by two radii drawn at the center.
4. The _____ of a regular polygon is the perpendicular distance from the center of the polygon to a side.

Example of each term (on an Octagon)



Theorem 11-6: The area of a regular polygon is equal to half the product of the _____ and the _____.

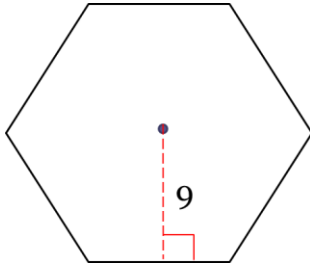
Equation:



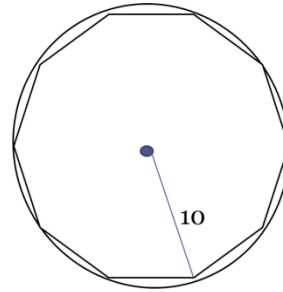
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Practice: Find the area of each figure.

1.)

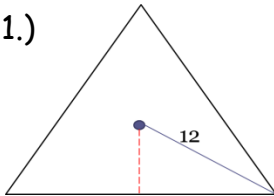


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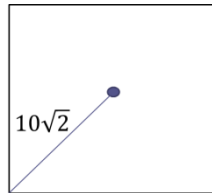


Group Practice: Find the area for the following diagrams in your groups.

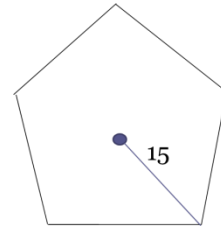
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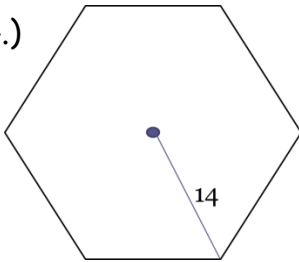
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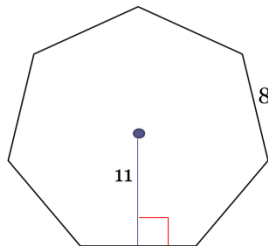
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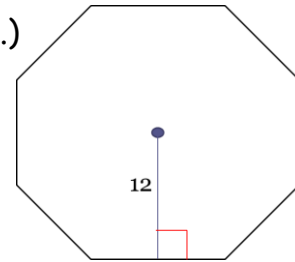
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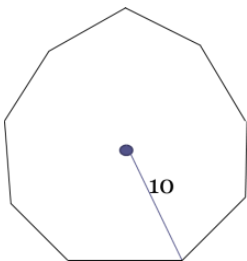
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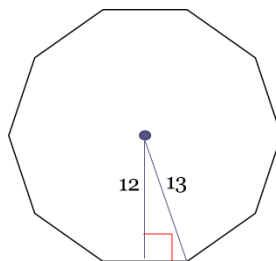
6.)



7.)



8.)



9.)

