

Name: _____

Date: _____

UNIT 1A

LESSON 3

AIM: HOW DO WE CONSTRUCT A HEXAGON AND AN INSCRIBED TRIANGLE?

Do Now: ***VOCAB QUIZ!*** Then, practice drawing circles using your compass. The circle can be any size you wish...don't make it so tiny or so huge!

1. Construct a hexagon.

Steps For Constructing a Hexagon:

- 1) Draw a circle using your compass of any size.
- 2) Using the length of the radius, position the needle on the circle and make an arc.
- 3) Position the needle on the intersection of the circle and the last arc draw and make a new arc.
- 4) Repeat arcs until you have reached where you started.
- 5) Connect all intersections to create a circle.

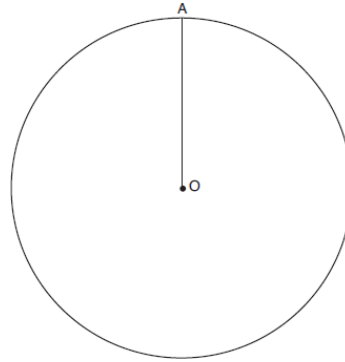
2. Construct an *equilateral* inscribed a circle.

Steps For Constructing an Inscribed Equilateral Triangle:

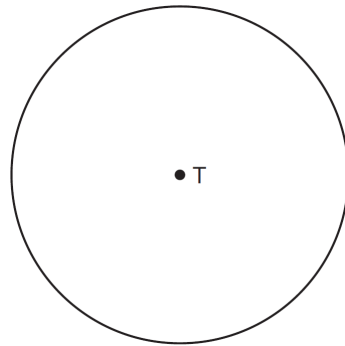
- 1. Draw a circle any size.**
- 2. Using the length of the radius, position the needle on the circle & make an arc.**
- 3. Position the needle of the intersection of the arc & make a new arc.**
- 4. Repeat step #3 until you have six arcs on your circle.**
- 5. Connect only every other arc to construct your triangle inscribed the circle.**

PRACTICE:

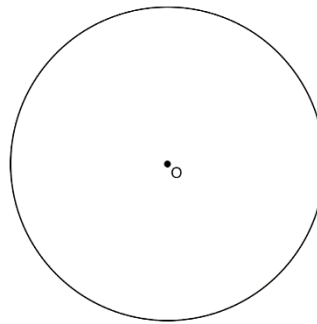
1. Given circle O with radius \overline{OA} , use a compass and straightedge to construct an equilateral triangle inscribed in circle O . [Leave all construction marks.]



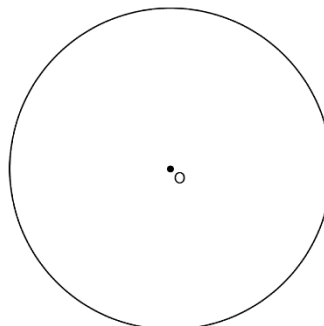
2. Construct an equilateral triangle inscribed in circle T shown below. [Leave all construction marks.]



3. Using a compass and straightedge, construct a regular hexagon inscribed in circle O . [Leave all construction marks.]



4. Using a compass and straightedge, construct a regular hexagon inscribed in circle O below. Label it $ABCDEF$. [Leave all construction marks.]



If chords \overline{FB} and \overline{FC} are drawn, which type of triangle, according to its angles, would $\triangle FBC$ be? Explain your answer.

CONCLUSION!

- An equilateral triangle is made by constructing intersecting circles with equal _____.
- To create an **inscribed equilateral triangle**, use the radius to construct ____ arcs around the circle and connect _____ arc.
- To create an **inscribed hexagon**, use the radius to construct ____ arcs around the circle and connect _____ arc.