

Geometry CC – Mr. Valentino
Unit 2: Lesson 5

Name: _____
Date: _____ Per: _____

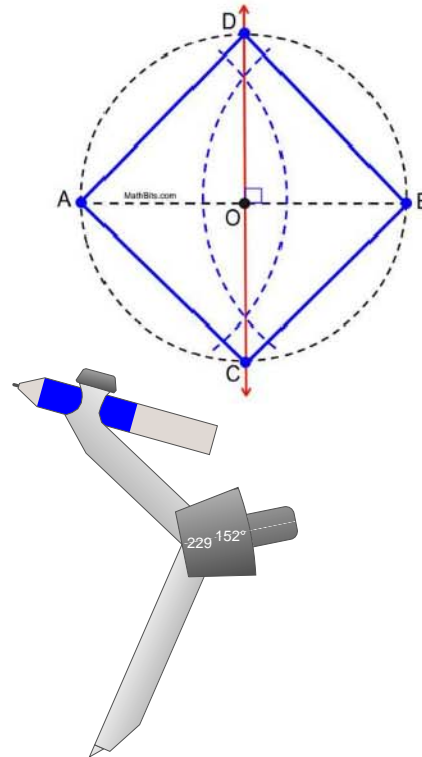
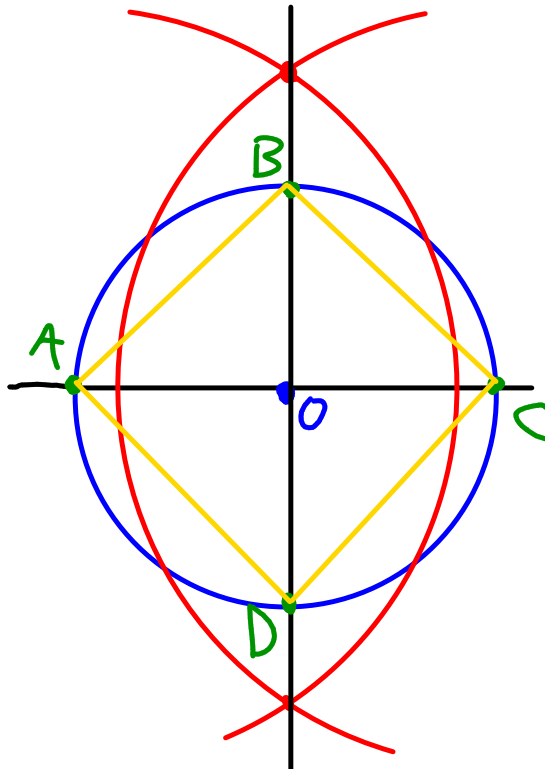
More constructions today. Let's go to work!

The first construction we will learn today is how to construct a square inscribed in a circle. Here are the steps:



STEPS:

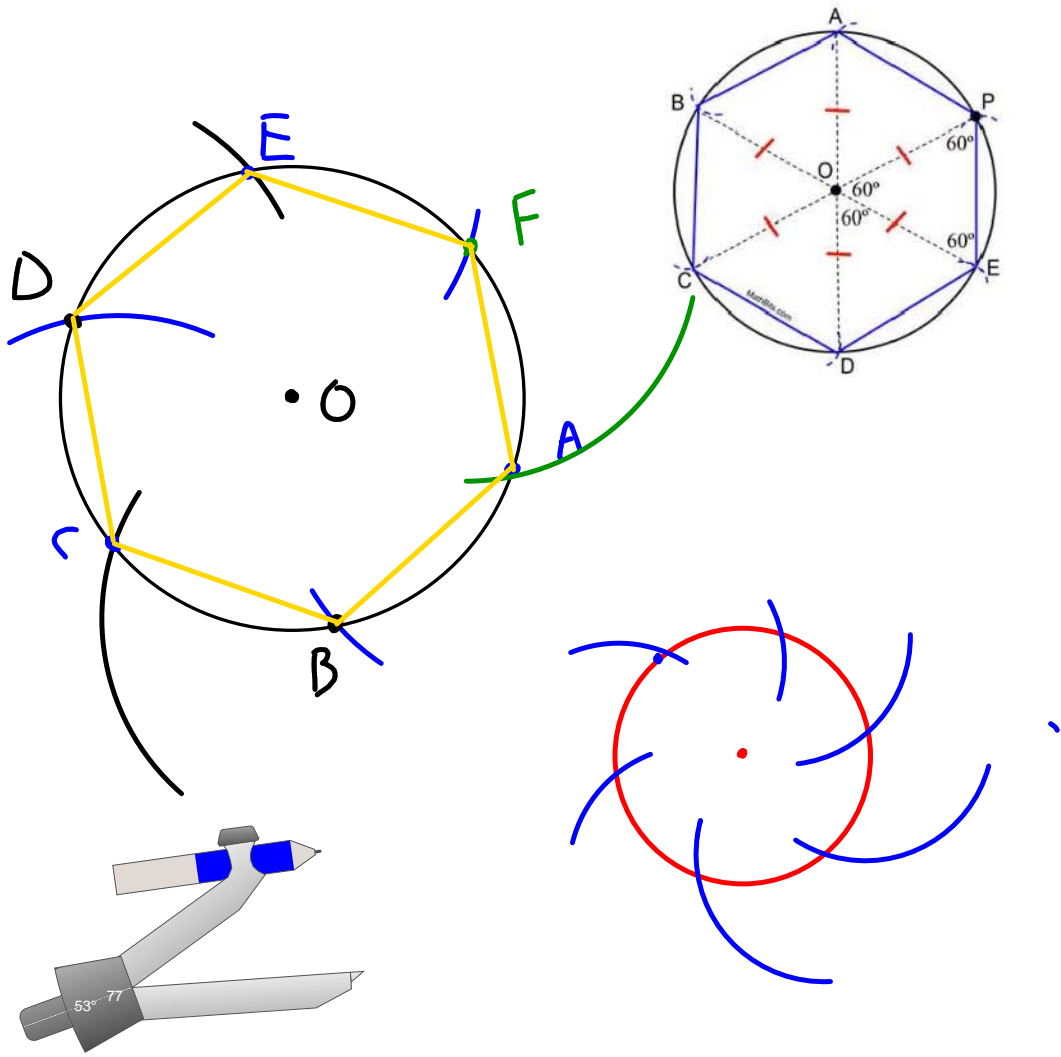
1. Using your compass, draw a circle and label the center O .
2. Using your straightedge, draw a diameter of the circle, labeling the endpoints A and B .
3. Construct the perpendicular bisector of the diameter, \overline{AB} .
4. Label the points where the bisector intersects the circle as C and D .
5. Connect points A to B to C to D to form the square.



Next, we will construct a hexagon inscribed in a circle. Remember, a hexagon has ____ sides.

STEPS:

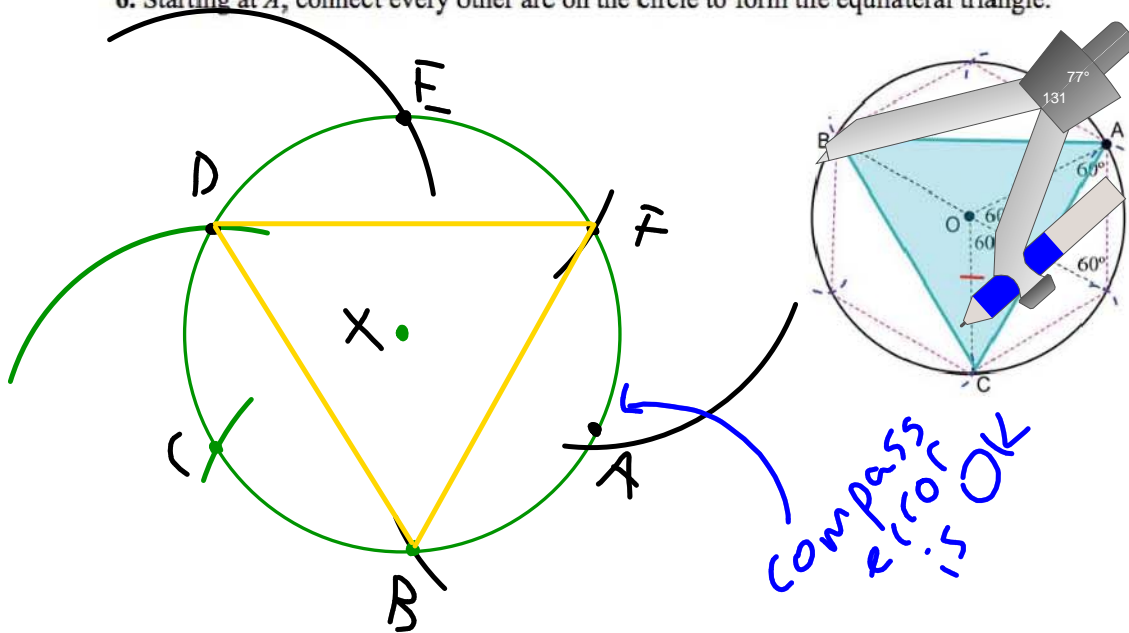
1. Place your compass point on the paper and draw a circle. (Keep this compass span!)
2. Place a dot, labeled P , anywhere on the circumference of the circle to act as a starting point.
3. **Without changing the span on the compass**, place the compass point on P and swing a small arc crossing the circumference of the circle.
4. **Without changing the span on the compass**, move the compass point to the intersection of the previous arc and the circumference and make another small arc on the circumference of the circle.
5. Keep repeating this process of "stepping" around the circle until you return to point P .
6. Starting at P , connect to each arc on the circle forming the regular hexagon.



Lastly, we will construct a triangle inscribed in a circle.

STEPS:

1. Place your compass point on the paper and draw a circle. (Keep this compass span!)
2. Place a dot, labeled A , anywhere on the circumference of the circle to act as a starting point.
3. Without changing the span on the compass, place the compass point on A and swing a small arc crossing the circumference of the circle.
4. Without changing the span on the compass, move the compass point to the intersection of the previous arc and the circumference and make another small arc on the circumference of the circle.
5. Keep repeating this process of "stepping" around the circle until you return to point A .
6. Starting at A , connect every other arc on the circle to form the equilateral triangle.



Homework:

1. Construct a triangle inscribed in a circle in the space below.

2. Construct a square inscribed in a circle in the space below.

3. Construct a hexagon inscribed in a circle in the space below.