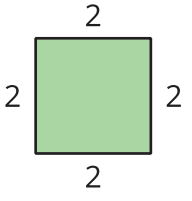
Lesson 7: Construction Techniques 5: Squares

- Let's use straightedge and compass moves to construct squares.

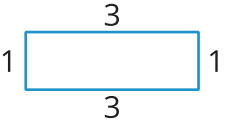
7.1: Which One Doesn't Belong: Polygons

Which one doesn't belong?

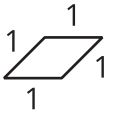
A



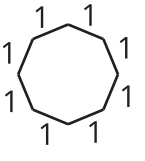
B



C

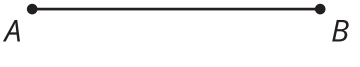


D



7.2: It's Cool to Be Square

Use straightedge and compass moves to construct a square with segment AB as one of the sides.



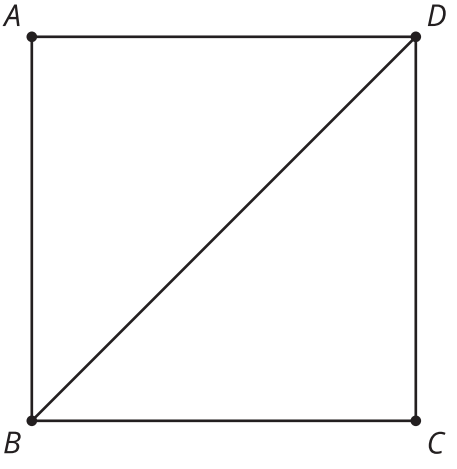
7.3: Trying to Circle a Square

1. Here is square $ABCD$ with diagonal BD drawn:
   a. Construct a circle centered at A with radius AD.

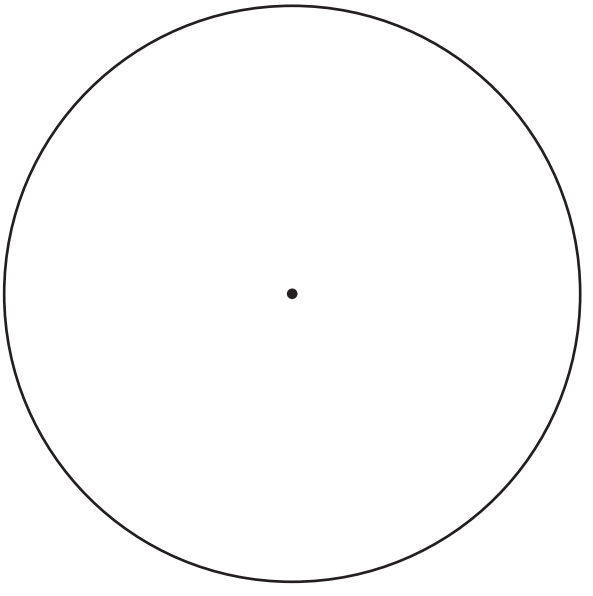
   b. Construct a circle centered at C with radius CD.

   c. Draw the diagonal AC and write a conjecture about the relationship between the diagonals BD and AC.

   d. Label the intersection of the diagonals as point E and construct a circle centered at E with radius EB. How are the diagonals related to this circle?



2. Use your conjecture and straightedge and compass moves to construct a square inscribed in a circle.



Are you ready for more?

Use straightedge and compass moves to construct a square that fits perfectly outside the circle, so that the circle is inscribed in the square. How do the areas of these 2 squares compare?

Lesson 7 Summary

We can use what we know about perpendicular lines and congruent segments to construct many different objects. A square is made up of 4 congruent segments that create 4 right angles. A square is an example of a **regular polygon** since it is equilateral (all the sides are congruent) and equiangular (all the angles are congruent). Here are some regular polygons inscribed inside of circles: