In this lesson you will:
- construct an angle bisector using a compass and straightedge
- complete the Angle Bisector Conjecture
- construct parallel lines using a compass and straightedge
- construct polygons using the basic construction methods you have learned

On a softball field, the pitcher's mound is the same distance from each foul line, so it lies on the angle bisector of the angle formed by the foul lines.
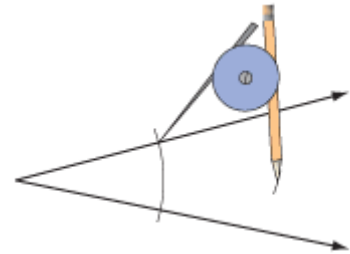
Angle Bisector Conjecture (C-8)

If a point is on the bisector of an angle, then it is _____ from the sides of the angle.

Investigation 3.4: "Angle Bisecting with a Compass"

A.) Draw an angle.

B.) Find a method for constructing the bisector of the angle. Experiment! (Hint: Start by drawing an arc centered at the vertex.)
C.) Once you think you have constructed the angle bisector, fold your paper to see if the ray you constructed is actually the bisector. Share your method with other students in your group.
D.) Write a summary of how to find an angle bisector.

<u>Investigation 3.5: "Constructing Parallel Lines"</u>

There are many different ways to construct parallel lines, but most think that the easiest way is to construct two perpendiculars to the same line.

    A.) Construct a perpendicular line to the line *l* below. Call this new line *m*.
    B.) Construct a perpendicular line to the line *m*. Call this new line *n*.
    C.) What is true about line *l* and line *n*?

l ⟵————————————————————————————⟶
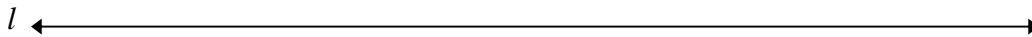
●Example 1: Construct $\triangle ABC$ using the three segments $\overline{AB}$, $\overline{BC}$, and $\overline{AC}$ shown below.

A•————————————•B
B•————————————•C
C•——————————————————•A
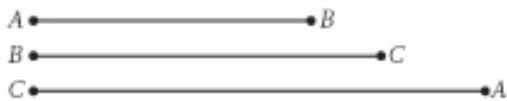
In the assignment you'll construct triangles and quadrilaterals with various combinations of parts given, using the basic construction methods you have already learned.

⇒**ASSIGNMENT**: _____