For STUDENTS: Handout for Session #2

Welcome to our session all about angles! Today we will explore how angles are created, explore how to measure and construct angles, and use them to find centers of circles, draw parallel lines, and so much more!

Your will need materials in order to participate in all the hands-on fun we have planned for you.
All students will be given new challenges and projects every session! Please make sure that you have these things ready for today:

For the entire Geometry Course – students will be using these materials *DURING* the live classes:

- Math journal, either lined or quadrille (print your own graph paper as needed)
- Pencils and eraser
- Protractor
- Compass (one with a set screw adjustment)
- Ruler (inches and cm) (here is Aurora's favorite)
- Calculator (here is the one Aurora uses during class)

For the Projects (all levels) – students will be using these materials *AFTER* the live classes:

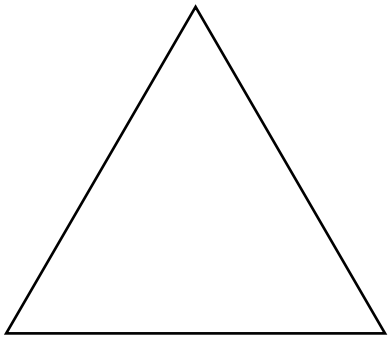
Session #2: Angles

- Flashlight or red laser (inexpensive red keychain lasers work great)
- Index cards (lined or blank), 10, any size
- Paper clips (10)
- Scissors and tape
- Markers (pick darker colors)
- Small mirrors (1" square or round, you'll need about 10). *Craft stores carry these inexpensively, or you can make your own by covering small squares of cardboard with aluminum foil, or use mirrors from compacts or makeup kits*

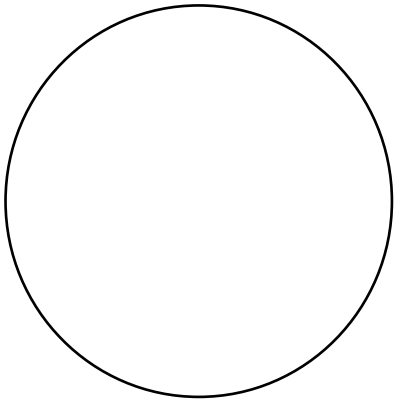
Quick Review:

Bisect a line and construct a perpendicular line through the midpoint.

Find the center of the triangle:



Find the center of the circle:



Session #2: Angles

Geometry is the branch of mathematics that studies lines, angles, shapes and space, and looks at how they all relate to each other. Today we will explore how angles are created, explore how to measure and construct angles, use them to find centers of shapes, and finish with a special Math Challenge!

An **ANGLE** is formed by 2 rays or line segments with the same *vertex*.
A **VERTEX** is the point of *intersection* of 2 or more segments, lines, and rays.
RIGHT ANGLES are made from a line that is perpendicular to a straight line. Right angles always measure exactly 90^{o}.
A **DEGREE** (^{o}) of measure is the unit that we use to measure an angle. There are 360^{o} in a _____
ACUTE ANGLES measure less than 90^{o}
OBTUSE ANGLES measure more than 90^{o}
STRAIGHT (FLAT) ANGLES measure exactly 180^{o}

COMPLEMENTARY ANGLES add to	**SUPPLEMENTARY ANGLES** add to
VERTICAL ANGLES are congruent. They are a pair of opposite angles formed by two intersecting lines.	**ADJACENT ANGLES** share a common side and vertex. They can be supplementary if they are formed from a straight angle.

MEASURE THE ANGLES