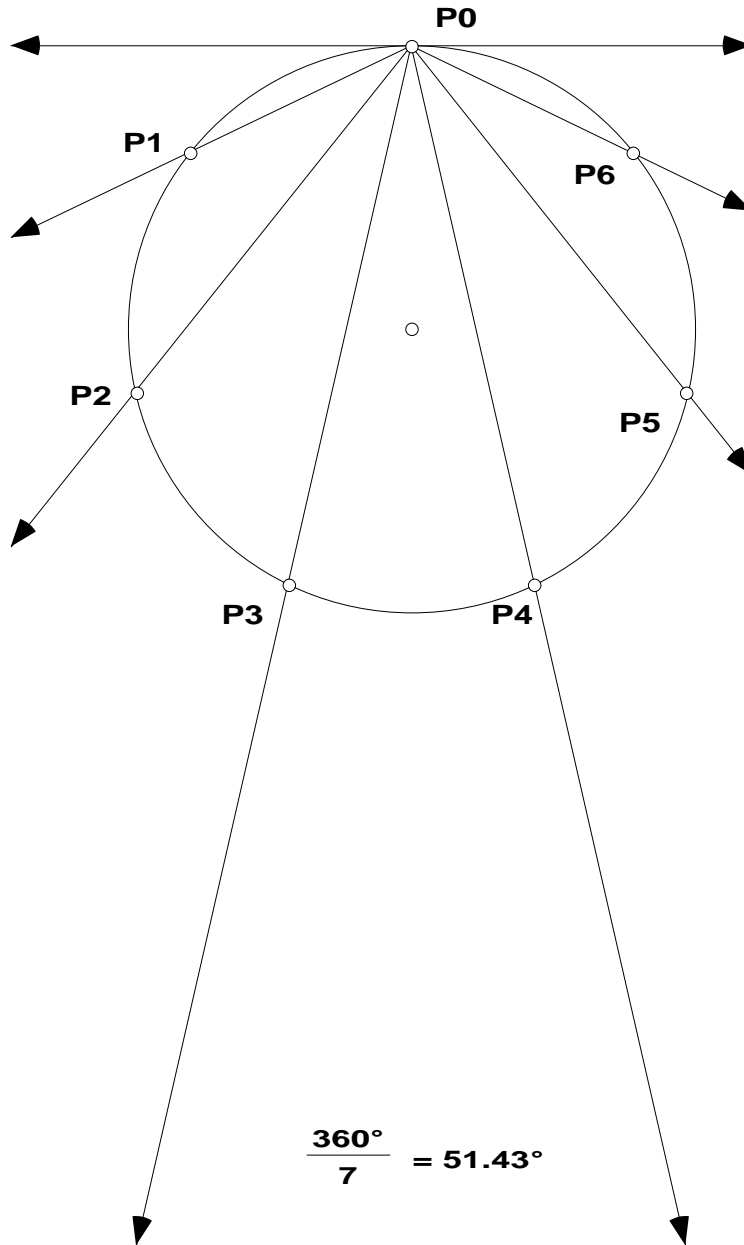


Lab 05 Part 1 (Cutting out angles with scissors)

Inscribed angles: A figure to cut up

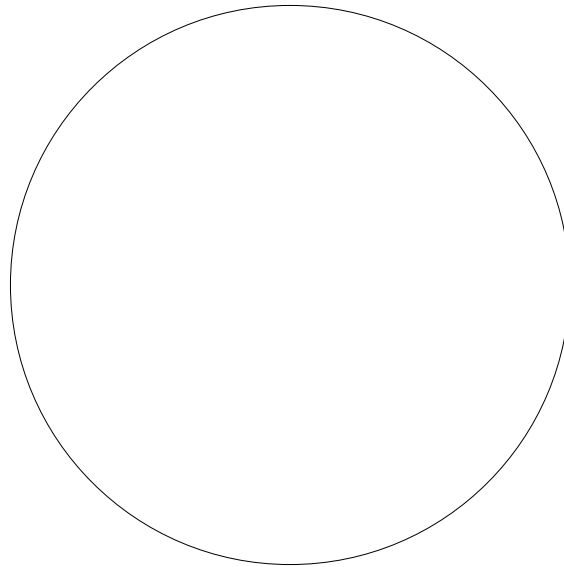
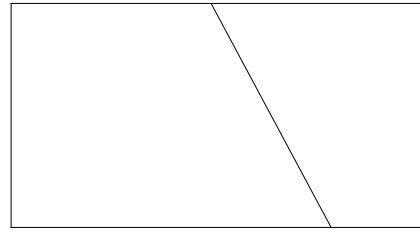
Each arc has measure $360/7$ degrees. Cut along each ray with scissors to get 7 angle wedges and compare the angles by laying one on top of the other. Notice that 5 of the angles are equal by the inscribed angle theorem discussed in class. What are the other 2 angles?



Placing a cut-out angle as inscribed angle in a circle

On this page is a circle, which will be our laboratory.

Cut another sheet of paper in two to form a pair of supplementary angles. From the midpoint of one long edge of the paper cut a straight line from its approximate midpoint to a point on the opposite side. This will make the 2 sides of each angle longer than 5 inches and thus greater than the diameter of this circle. **Choose your angle at random. Do not try to match this one!**

***Experiment 1.***

Take one of your angles and place the vertex at any point A on the circle so that the angle is an inscribed angle. Mark the points B and C where the sides of the angle intersect the circle. Do this more than one time. Notice that the length of the segment BC is always the same.

Experiment 2.

Pick one pair of the points B and C from Experiment 1. Move your angle so that one side always intersects the circle and vertex A moves along the circle. See how the other sides always intersects at point C as A moves. (as long as A stays on one side of line BC).

Experiment 3.

Pick one pair of the points B and C from Experiment 1. Place your first angle with vertex A on the circle so that angle BAC is inscribed and congruent to your first angle. Now use your supplementary angle and place the vertex at any point D on the arc with endpoints BC which does not contain A. Notice that this angle can be placed with one side passing through B and the other through C.