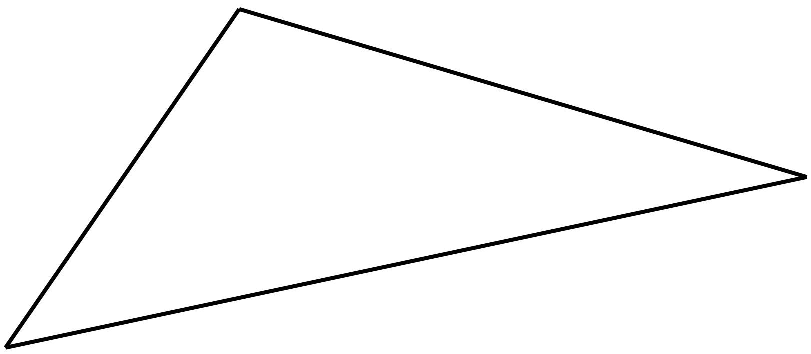
Name: ______________________________________ Module 1: Lesson 5
Date: _________________ Period: ______________ Points of Concurrency

1. Draw the triangle below onto your patty paper.
2. Fold your patty paper so that you are creating the perpendicular bisector of each side of the triangle, one side at a time.

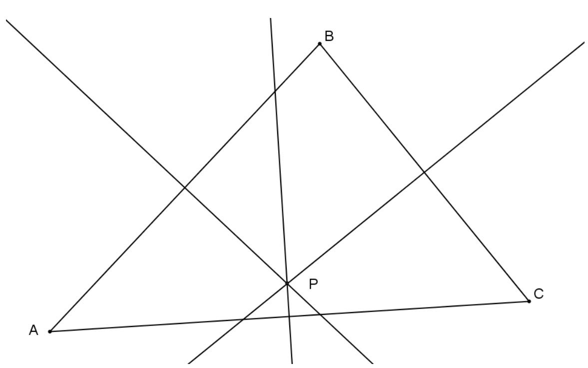


What did you notice?

When three or more lines intersect in a single point, they are _____________________, and the point of intersection is the _____________________________.

When all three **perpendicular bisectors** passed through a common point, the point of concurrency of the three perpendicular bisectors is the _______________________________.

The circumcenter of $\triangle ABC$ is shown below as point P.



We have also worked with angles bisectors.

On your other piece of patty paper:

1. Draw the same triangle as before.
2. Fold the paper patter to create the three **angle bisectors** of a triangle.

What did you notice?

This also results in a point of concurrency, which we call the ________________________.

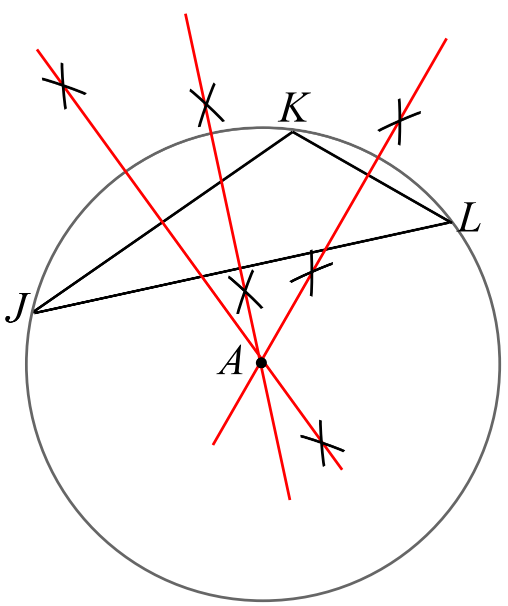
Observe the constructions below:

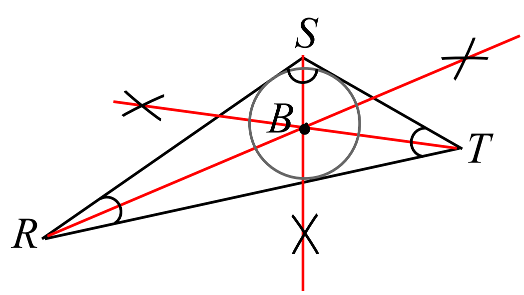
Point A is the ____________________________ of triangle $\triangle JKL$ (notice that it can fall outside of the triangle).

Point B is the ____________________________ of triangle $\triangle RST$.

The **circumcenter** of a triangle is the center of the circle that **circumscribes that triangle**.

The **incenter** of the triangle is the center of the circle that **is inscribed in that triangle**.

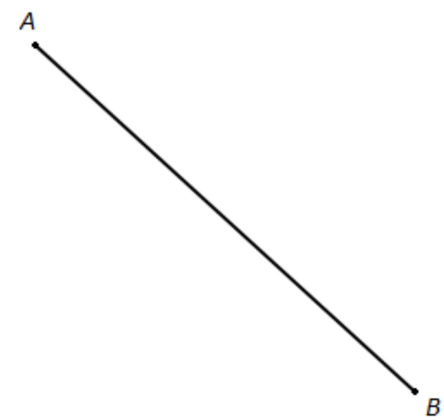




Name: ___________________________________ Module 1: Lesson 5

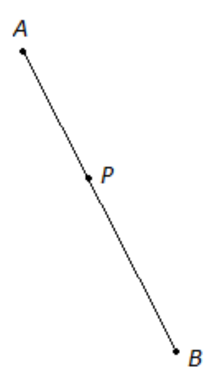
Date: __________________ Period: ____________ Classwork

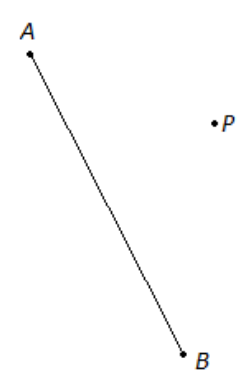
1. Given line segment AB, using a compass and straightedge construct the set of points that are equidistant from A and B.



What figure did you end up constructing? Explain.

2. For each of the following, construct a line perpendicular to segment AB that goes through point P.





3. Using a compass and straightedge, construct the angle bisector of ∠ABC shown below. What is true about every point that lies on the ray you created?