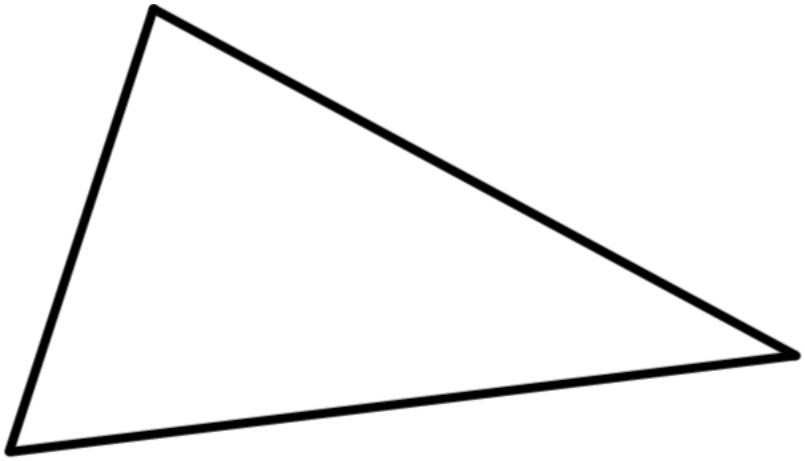
Circumscribing a circle around a triangle



Steps:

1. Construct a perpendicular bisector of two sides of the triangles.

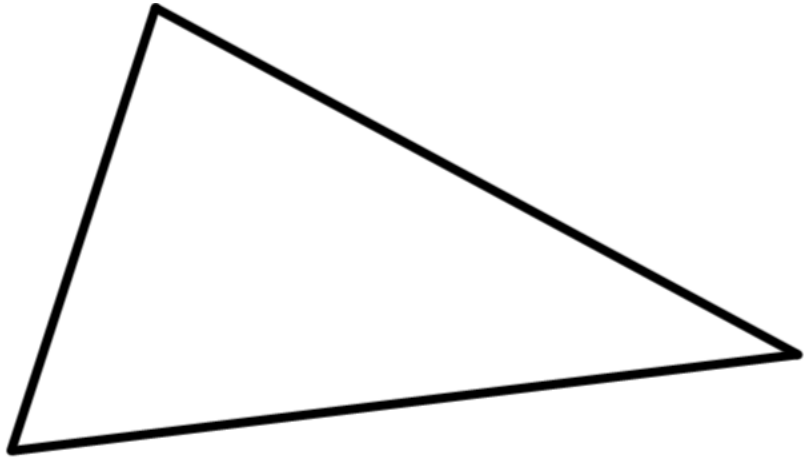
2. Put your compass center at the point of intersection. This is called the incenter.

3. Then find a hole that lines up with one vertex of the triangle.

4. Construct a circle with center at the circumcenter and a whole that lines up with a vertex. This circle will inscribe the triangle.

Repeat this at least 3 more times on a separate sheet of paper.

Inscribing a circle in a Triangle



Steps for Inscribing a Circle in a Triangle

1. Bisect two of the angles in the triangle.

2. Make a point where the bisectors intersect. This is called the circumscribing. Label the point H.

3. From the point H construct a perpendicular line through one of the lines of the triangle.

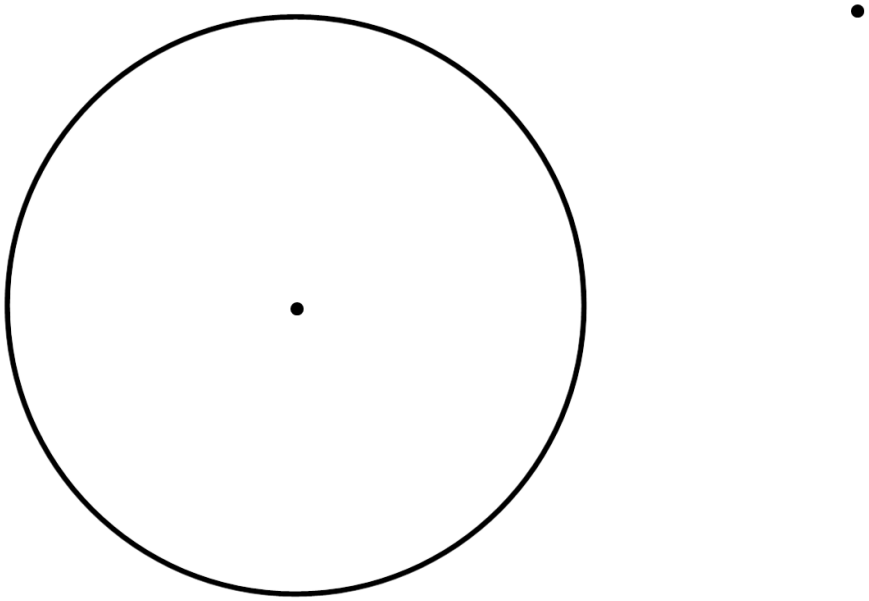
4. Mark the point of intersection between the side and perpendicular line. Label it point K.

5. Place the compass center on point H and find a hole that lines up with point K. Draw a circle.

6. This circle will be circumscribed inside the triangle.

Repeat this at least 3 more times on a separate sheet of paper

A line tangent to a circle through a point



Steps for constructing a line tangent to a circle through a point

1. Draw a segment from the center of the circle to the given point.

2. Construct a perpendicular bisector of the segment drawn.

3. Place compass center on the midpoint of the line segment, and find a whole that lines up with the circle center.

4. Using that hole, draw an arc that crosses the circle in two places.

5. Use the straightedge to draw a line that connects the given point to each point of intersection.

6. Both of these lines are tangent to the circle.

Repeat this at least 3 more times on a separate sheet of paper