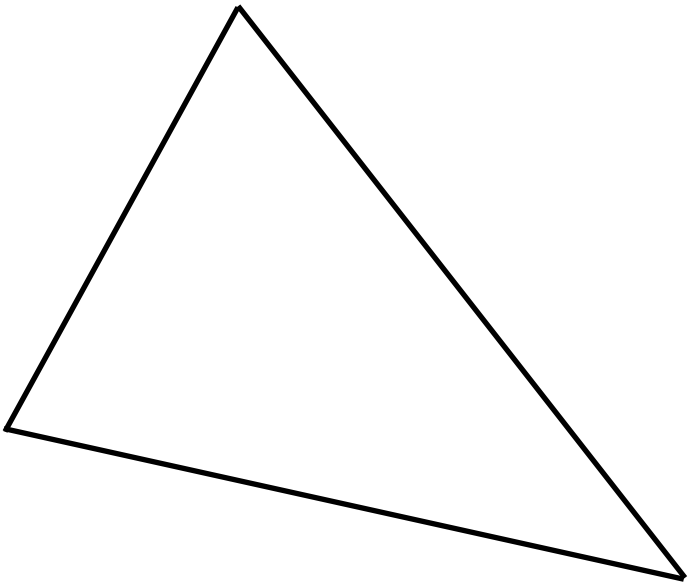
Centers of Triangles

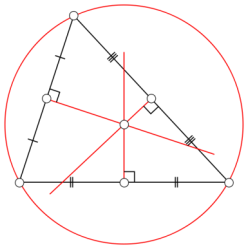
Circumcenter



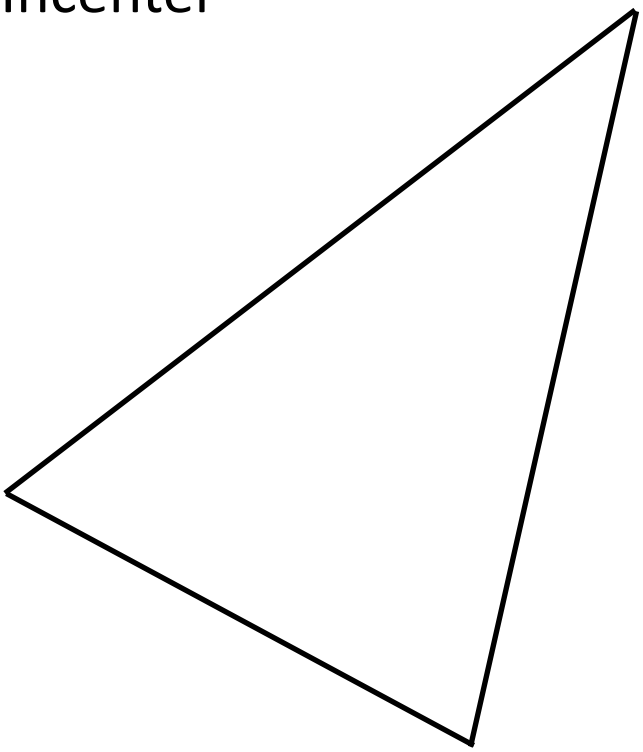
The **CIRCUMCENTER** is the point of intersection of the **perpendicular bisectors** of each side of a triangle.

The **CIRCUMCENTER** is equidistant from each vertex of the triangle.

The **CIRCUMCENTER** is the center of the circle circumscribed around the triangle.



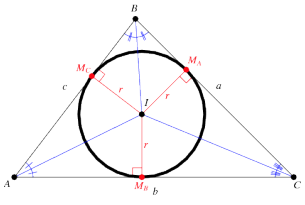
Incenter



The **INCENTER** is the point of intersection of the three angle bisectors of a triangle.

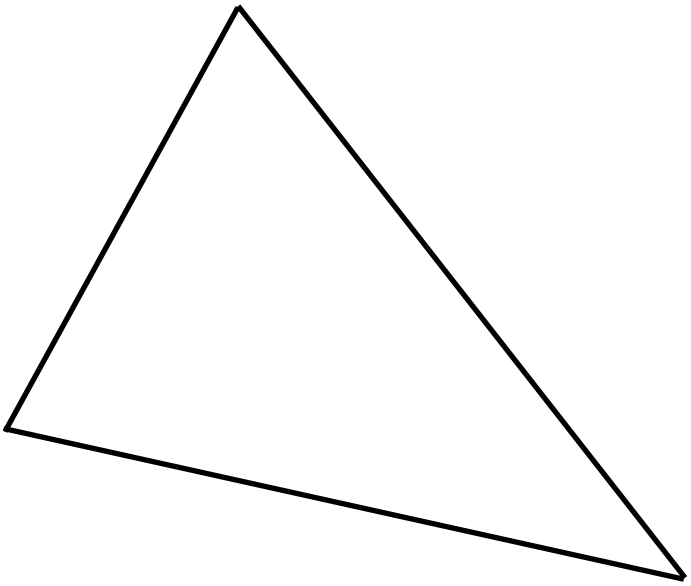
The **INCENTER** is the center of the circle inscribed inside the triangle.

The **INCENTER** is equidistant from each side of the triangle (measured by a perpendicular line.)



Centers of Triangles

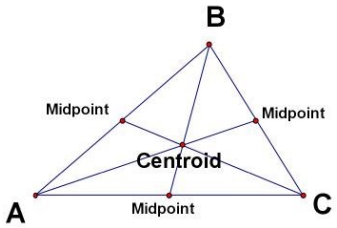
Centroid



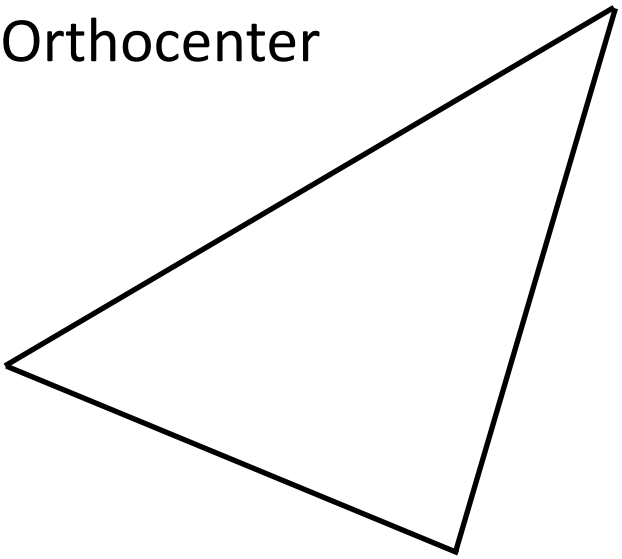
The **CENTROID** is the point of intersection of the **three medians** of a triangle.

A **median** is each of the **straight lines** that joins the **midpoint** of a side with the **opposite vertex**.

The **CENTROID** divides each median into two segments. The segment joining the centroid to the vertex is twice the distance of the segment joining the centroid to the opposite side.



Orthocenter



The **ORTHOCENTER** is the point of **intersection** of the three **altitudes** (heights) of a triangle.

The **altitude** is each of the perpendicular lines drawn from one vertex to the opposite side (or its extension.)

The **orthocenter** can be inside, on, or outside of the triangle.