

<p>Perpendicular Bisector Theorem</p>	<p>A segment, ray, line, or plane that is perpendicular to a segment at its midpoint is called a perpendicular bisector.</p>
<p>Converse of the Perpendicular Bisector Theorem</p>	<p>If a point is on the perpendicular bisector of a segment, then it is equidistant from the endpoints of the segment.</p>
<p>Equidistant</p>	<p>Point is equidistant from two points if its distance from each point is the same. When a point is the same distance from one line as it is from another line, then the point is equidistant from the two lines.</p>
<p>Distance from a Point to a Line</p>	<p>The distance from a point to a line is defined as the length of the perpendicular segment from the point to the line.</p>
<p>Angle Bisector Theorem</p>	<p>If a point is on the bisector of an angle, then it is equidistant from the two sides of the angle.</p>
<p>Converse of the Angle Bisector Theorem</p>	<p>If a point is in the interior of an angle and is equidistant from the sides of the angle, then it lies on the bisector of the angle.</p>

Perpendicular Bisector of a Triangle	A perpendicular bisector of a triangle is a line that is perpendicular to a side of the triangle at the midpoint of the side.
Concurrent Lines	When two or more lines intersect at the same point, they are called concurrent lines.
Point of Concurrency	The point at which the lines intersect is called the point of concurrency. This is true for rays or line segments as well.
Circumcenter of the Triangle	The point of concurrency of the perpendicular bisectors of a triangle is called the circumcenter of the triangle. The perpendicular bisectors of a triangle intersect at a point, the circumcenter, that is equidistant from the vertices of the triangle.
Angle Bisector of a Triangle	An angle bisector of a triangle is a bisector of an angle of the triangle.

Incenter of the Triangle	<p>The point of concurrency of the angle bisectors of a triangle is called the incenter of the triangle, and it always lies within the triangle.</p> <p>The incenter of a triangle is equidistant from the sides of the triangle.</p>
Median of a Triangle	<p>A median of a triangle is a segment whose endpoints are a vertex of the triangle and the midpoint of the opposite side.</p>
Centriod of the Triangle	<p>The point of concurrency of the medians of a triangle is called the centroid of the triangle.</p> <p>The centroid of a triangle is two-thirds of the distance from each vertex to the midpoint of the opposite side.</p>
Altitude of a Triangle	<p>An altitude of a triangle is the perpendicular distance from a vertex to the opposite side of the triangle.</p>
Orthocenter of the Triangle	<p>The lines containing the three altitudes of a triangle intersect at a point called the orthocenter of the triangle.</p>
Midsegment of a Triangle	<p>A midsegment of a triangle is a segment that connects the midpoints of two sides of a triangle.</p>

<p>Midsegment Theorem</p>	<p>Midsegment Theorem The segment connecting the midpoints of two sides of a triangle is parallel to the third side and is half as long.</p>
<p>If one side of a triangle is longer than another side, then...</p>	<p>If one side of a triangle is longer than another side, then the angle opposite the longer side is larger than the angle opposite the shorter side.</p>
<p>If one angle of a triangle is greater than another angle, then...</p>	<p>If one angle of a triangle is greater than another angle, then the side opposite the greater angle is longer than the side opposite the smaller angle.</p>
<p>Exterior Angle Inequality</p>	<p>The measure of an exterior angle of a triangle is greater than the measure of either of the two nonadjacent interior angles.</p>
<p>Triangle Inequality</p>	<p>The sum of the lengths of any two sides of a triangle is greater than the length of the third side.</p>
<p>Hinge Theorem</p>	<p>If two sides of one triangle are congruent to two sides of another triangle, and the included angle of the first is larger than the included angle of the second, then the third side of the first is longer than the third side of the second.</p>

Converse of the Hinge Theorem

If two sides of one triangle are congruent to two sides of another triangle, and the third side of the first is longer than the third side of the second, then the included angle of the first is larger than the included angle of the second.