

Geometry Chapter 5 Vocab

- **Midsegment of a triangle:** is a segment that connects the midpoints of two sides of a triangle.
- **Midsegment Theorem:** The segment connecting the midpoints of two sides of a triangle is parallel to the third side and is half as long.
- **Perpendicular bisector:** A segment, ray, line, or plane that is perpendicular to a segment at its midpoint.
- **Perpendicular Bisector Theorem (PBT):** In a plane, if a point is on the perpendicular bisector of a segment, then it is equidistant from the endpoints of the segment.
- **Converse of the Perpendicular Bisector Theorem:** In a plane, if a point is equidistant from the endpoints of the segment.
- When three or more lines, rays, or segments intersect in the same point, they are called **concurrent** lines, rays, or segments. The point of intersection of the lines, rays, or segments is called the **point of concurrency**.
- **Concurrency of Perpendicular Bisectors of a Triangle:** The perpendicular bisectors of a triangle intersect at a point that is equidistant from the vertices of the triangle.
- The point of concurrency of the three perpendicular bisectors of a triangle is called the **circumcenter** of the triangle.
- The point of concurrency of the three angle bisectors of a triangle is called the **incenter** of the triangle.
- **Angle Bisector Theorem (ABT):** If a point is on the bisector of an angle, then it is equidistant from the two sides of the triangle.
- **Converse of the Angle Bisector Theorem:** 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.
- **Concurrency of Angle Bisectors of a Triangle:** The angle bisectors of a triangle intersect at a point that is equidistant from the sides of the triangle. (incenter)
- **Median of a Triangle:** is a segment whose endpoints are a vertex of the triangle and the midpoint of the opposite side.

- **Centroid of the Triangle;** the point of concurrency of the three medians of a triangle.
- **Altitude of a triangle:** is the perpendicular segment from a vertex to the opposite side or the line that contains the opposite side,
- **Orthocenter of the triangle:** the lines containing the three altitudes are concurrent and intersect at a point.
- **Concurrency of Medians of a Triangle:** the medians of a triangle are concurrent at a point that is two thirds of the distance from the vertex to the midpoint of the opposite side.
- **Concurrency of Altitudes of a Triangle:** the lines containing the altitudes of a triangle are concurrent.
- **Hinge Theorem:** 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 larger than the third side of the second.
- **Converse of Hinge Theorem:** If two sides of one triangle of one triangle are congruent to two sides of another triangle, and the third side of the second, then the included angle of the first is larger than the included angle of the second.