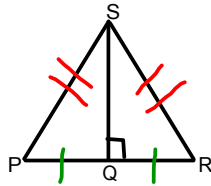


Perpendicular bisector of a triangle: a line or segment that is perpendicular to a side at its midpoint.

Picture:



Theorem 5-1 - Perpendicular Bisector Theorem

Words: Any point on the perpendicular bisector of a segment is equidistant from the endpoints of the segment.

Symbols:

If $\overline{SQ} \perp \overline{PR}$ & $\overline{PQ} \cong \overline{QR}$
 then $\overline{SP} \cong \overline{SR}$

This is a converse 5.1

Theorem 5-2

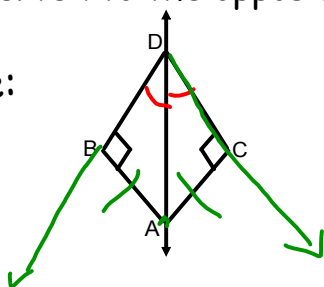
Words: Any point equidistant from the endpoints of the segment lies on the perpendicular bisector of that segment.

Symbols: If $\overline{SP} \cong \overline{SR}$ then

$\overline{SQ} \perp \overline{PR}$ & $\overline{PQ} \cong \overline{QR}$

Angle bisector of a triangle: a segment that extends from a vertex to the opposite, bisecting the angle.

Picture:



Theorem 5-3

Words: Any point on the bisector of an angle is equidistant from the sides of the angle.

Symbols: $\text{If } \angle BDA \cong \angle CDA$
 then $\overline{BA} \cong \overline{CA}$

Converse to 5.3

Theorem 5-4

Words: Any point on or in the interior of an angle and equidistant from the sides of an angle lies on the bisector of an angle.

Symbols: $\text{If } \overline{BA} \cong \overline{CA}$
 then, $\angle BDA \cong \angle CDA$