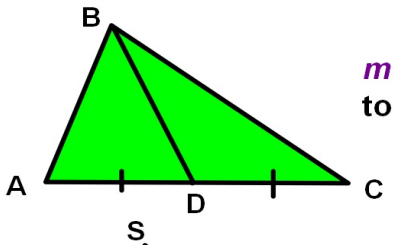
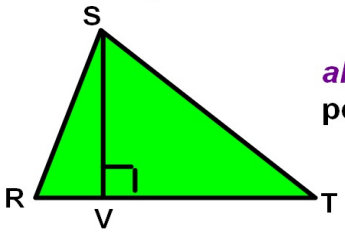
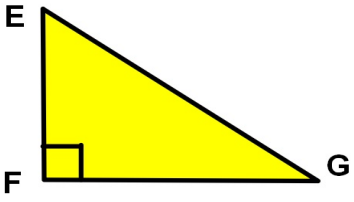
4-7 Medians, Altitudes and Angle Bisectors

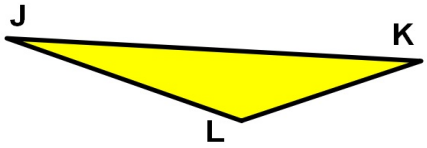


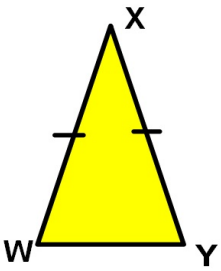
median $\overline{BD}$ is drawn from vertex B to the midpoint of opposite side $\overline{AC}$

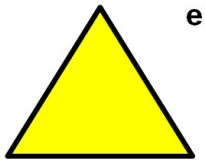


altitude $\overline{SV}$ is drawn from vertex S perpendicular to opposite side $\overline{RT}$









equilateral triangle

perpendicular bisector **of a segment**

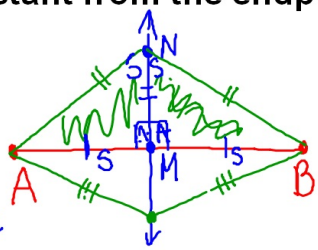
(Oct 27 cont)

Theorems 4-5 and 4-6

A point is on the perpendicular bisector of a segment if and only if the point is equidistant from the endpoints of the segment.

$\triangle ANM \cong \triangle BNM$ by SAS

$NA = NB$ by CPCTC



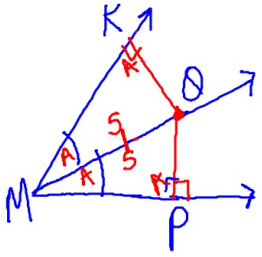
If $\overline{NM}$ is the $\perp$ bisector of $\overline{AB}$ then $NA = NB$.

Theorems 4-7 and 4-8

A point is on the angle bisector of an angle if and only if the point is equidistant from the sides of the angle.

$\triangle KMQ \cong \triangle PMQ$ by AAS

$QK = QP$ by CPCTC



If $\overrightarrow{MQ}$ bisects $\angle KMP$, then $QK = QP$.