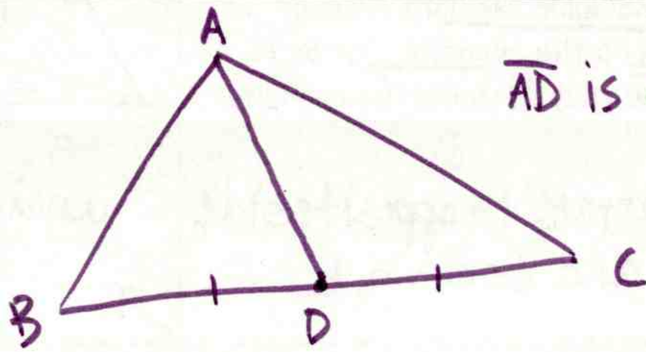
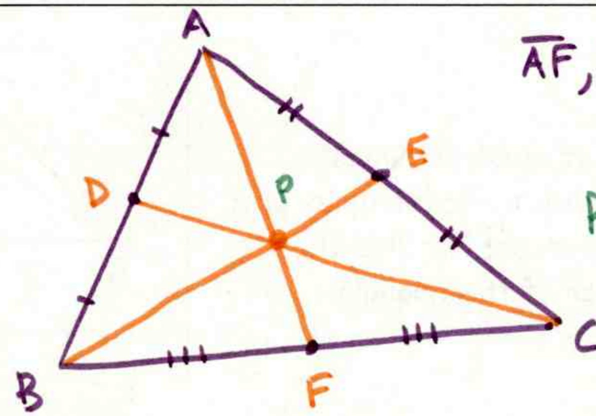
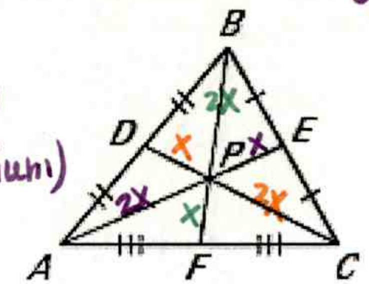
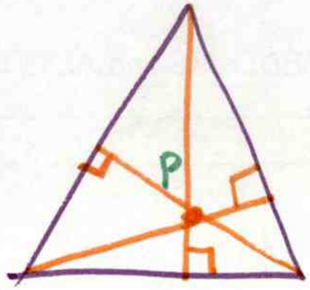
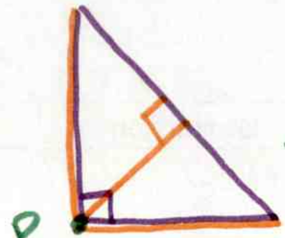
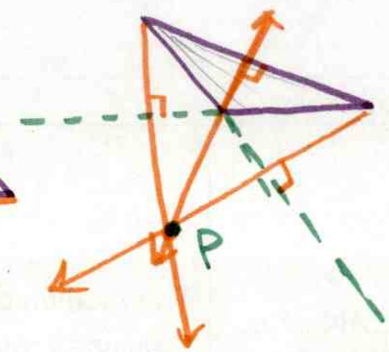
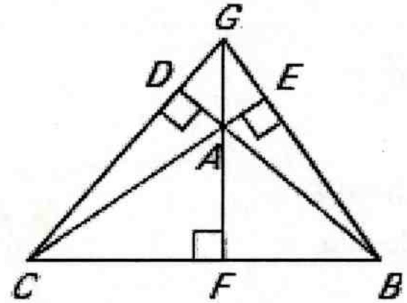
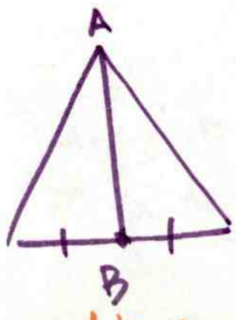
Section 5.4 Date___________

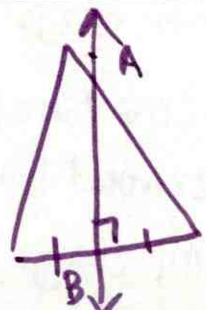
MEDIANS and ALTITUDES

Vocabulary	Definition	Example
MEDIAN of a TRIANGLE	The median of a triangle is a segment from a vertex to the midpoint of the opposite side. vertex to midpoint	 $\overline{AD}$ is a median
CENTROID	The point of concurrency of the three medians of a triangle is a centroid.	 $\overline{AF}$, $\overline{CD}$ and $\overline{BE}$ are medians P is the centroid
CONCURRENCY of MEDIANS of a TRIANGLE	centroid The medians of a triangle intersect at a $\boxed{\text{point}}$ that is two thirds of the distance from each vertex to the midpoint of the opposite side. vertex to centroid = $\frac{2}{3}$ median centroid to midpoint = $\frac{1}{3}$ median	The medians of $\triangle ABC$ meet at P and $AP = \frac{2}{3}$ AE, $BP = \frac{2}{3}$ BF, and $CP = \frac{2}{3}$ CD. x : centroid to mp (small) 2x: vertex to centroid (medium) 3x: vertex to mp (Large) median  ex: BP = 12 2x BF = 18 3x PF = 6 x AE = 21 3x AP = 14 2x PE = 7 x

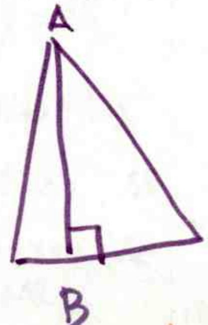
		Acute	Right	obtuse
Height ALTITUDE of a TRIANGLE	An altitude of a triangle is the perpendicular segment from a vertex to the opposite side or to the line that contains the opposite side. vertex to opposite side and form a ⊾	 unside	 on the ⊾	 outside the Δ
ORTHOCENTER	The point at which the lines containing the three altitudes of a triangle intersect is called the orthocenter of the triangle.			



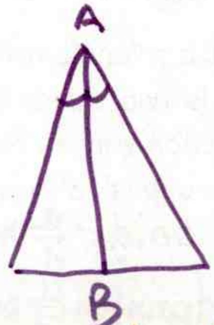
median
v → mp



⊥ Bisector



Altitude



∠ Bisector