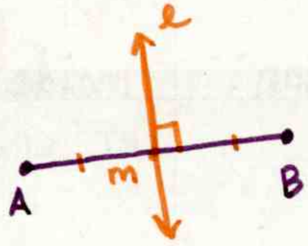
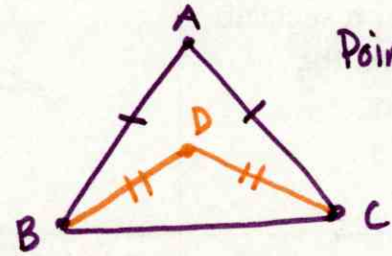
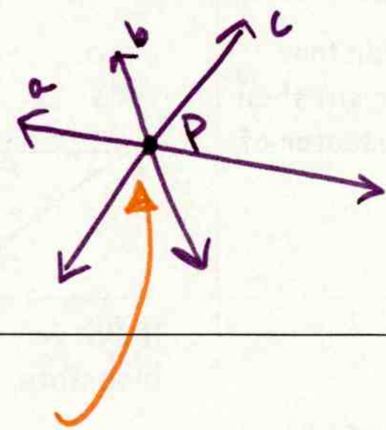
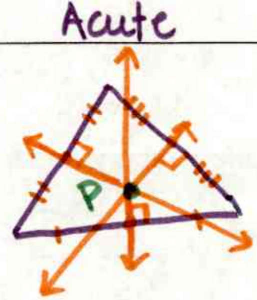
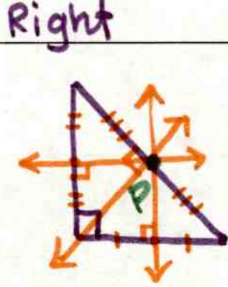
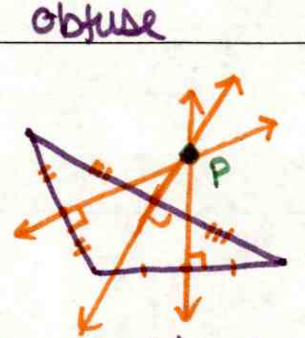
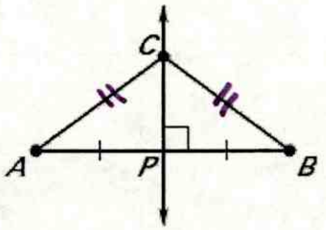
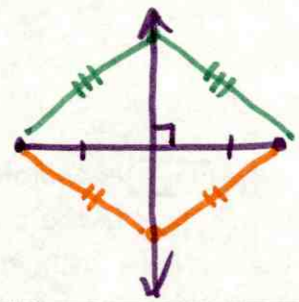
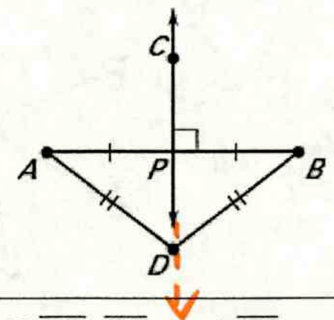
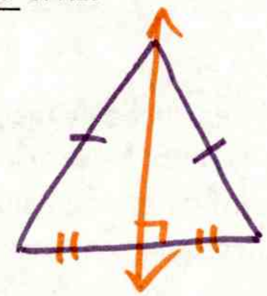
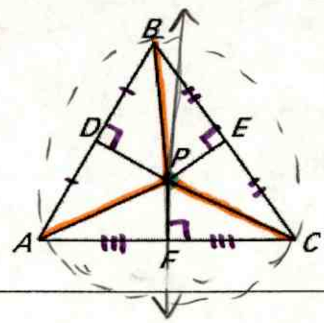
Section 5.2 Date

Use Perpendicular Bisectors

Vocabulary	Definition	Example
PERPENDICULAR BISECTOR	A segment, ray, line, or plane that is perpendicular to a segment at its midpoint is called a perpendicular bisector.	 line ℓ is ⊥ bisector of $\overline{AB}$
= EQUIDISTANT distance	A point is equidistant from two figures if the point is the same distance from each figure.	 Point A is equidistant to B and C D " (same as above)
CONCURRENT	When three or more lines, rays, or segments intersect in the same point, they are called concurrent lines, rays, or segments.	 line a, b and c are concurrent lines
POINT of CONCURRENCY	The point of intersection of concurrent lines, rays, or segments is called the point of concurrency.	P is the point of concurrency

CIRCUMCENTER	The point of concurrency of the three perpendicular bisectors of a triangle is called the circumcenter of the triangle. Location:	   inside the Δ on the hypotenuse outside the Δ
PERPENDICULAR BISECTOR THEOREM ⊥ Bis. Thm.	In a plane, if a point is on the perpendicular bisector of a segment, then it is equidistant from the endpoints of the segment.	If $\overleftrightarrow{CP}$ is the ⊥ bisector of $\overline{AB}$, then $CA =$ CB.  
CONVERSE of the PERPENDICULAR BISECTOE THEOREM C ⊥ Bis. Thm.	In a plane, if a point is equidistant from the endpoint of a segment then it is on the perpendicular bisector of the segment.	If $DA = DB$, then D lies on the ⊥ bisector of $\overline{AB}$.  
CONCURRENCY of PERPENDICULAR BISECTORS of a TRIANGLE	circumcenter The perpendicular bisectors of a triangle intersect at a point that is equidistant from the vertices of the triangle.	If $\overline{PD}$, $\overline{PE}$, and $\overline{PF}$ are perpendicular bisectors, then $PA =$ PB $=$ PC.  circumcentor to vertex ≅