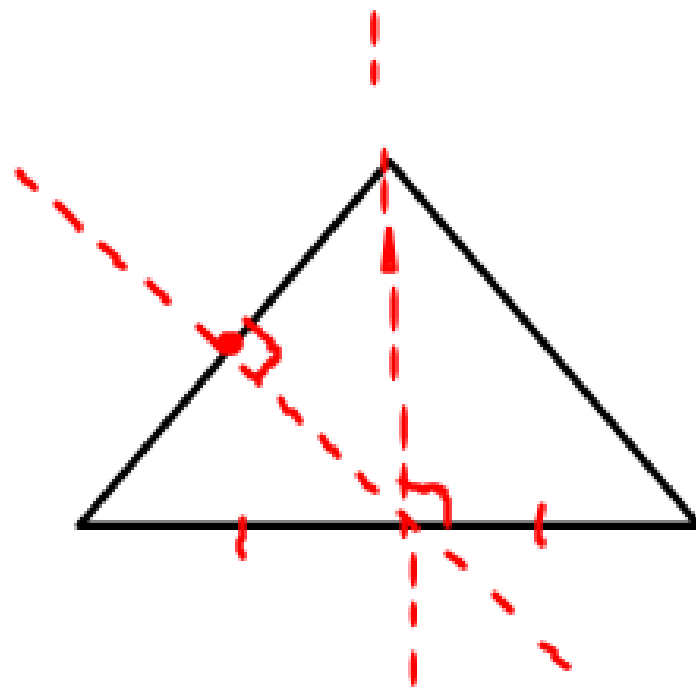


5 - 1

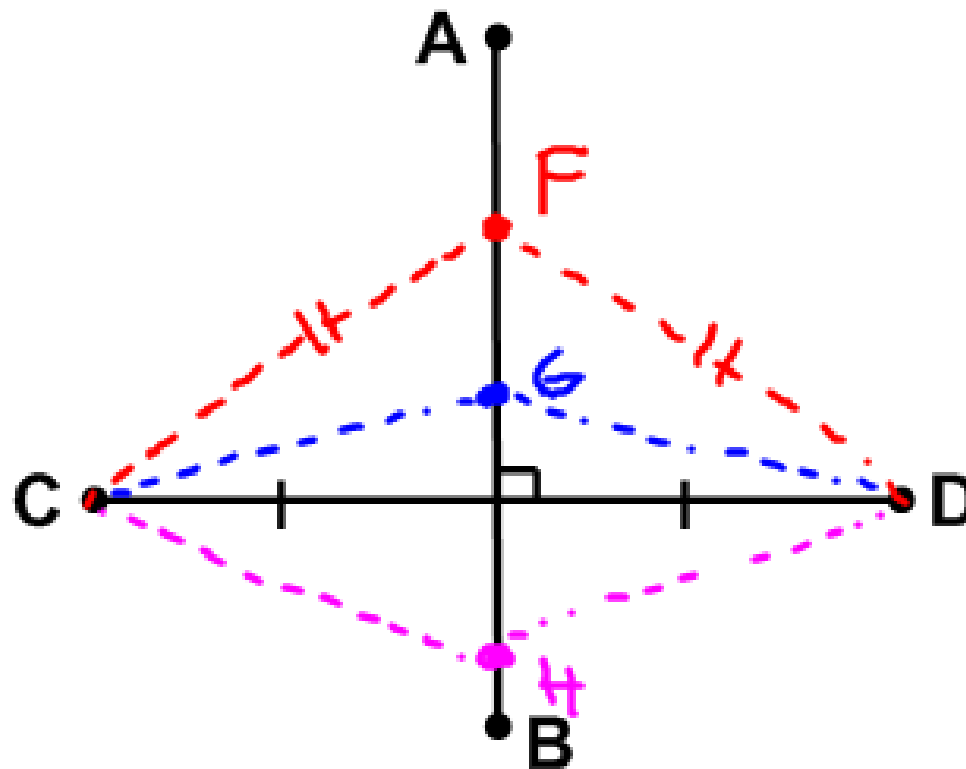
**Bisectors, Medians,
and Altitudes**

A perpendicular bisector of a side of a triangle is a line, segment, or ray that passes through the midpoint of the side and is perpendicular to that side.



Theorem 5.1:

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

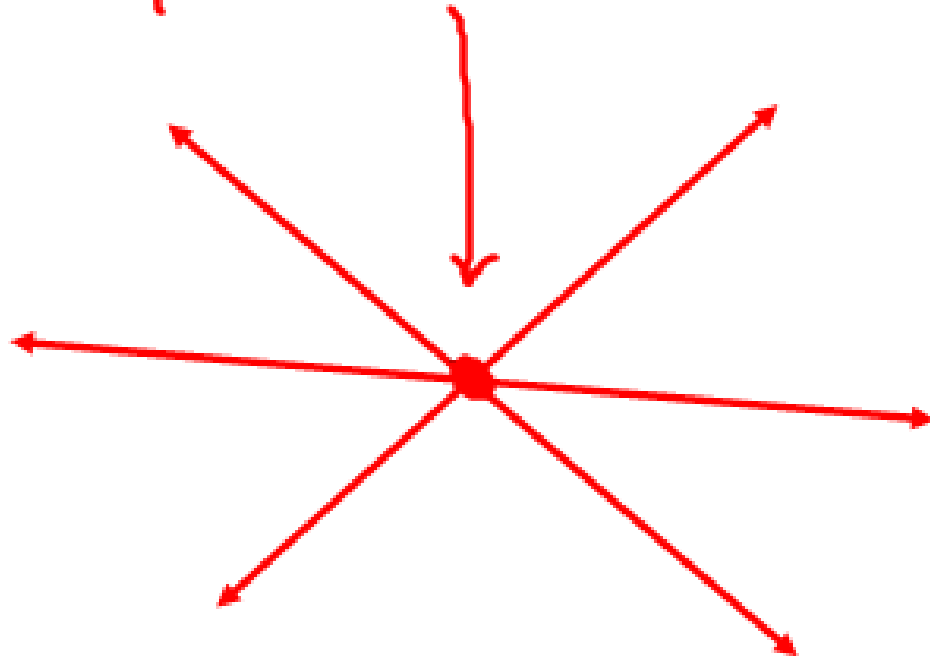


Theorem 5.2:

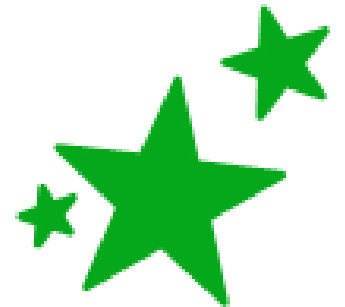
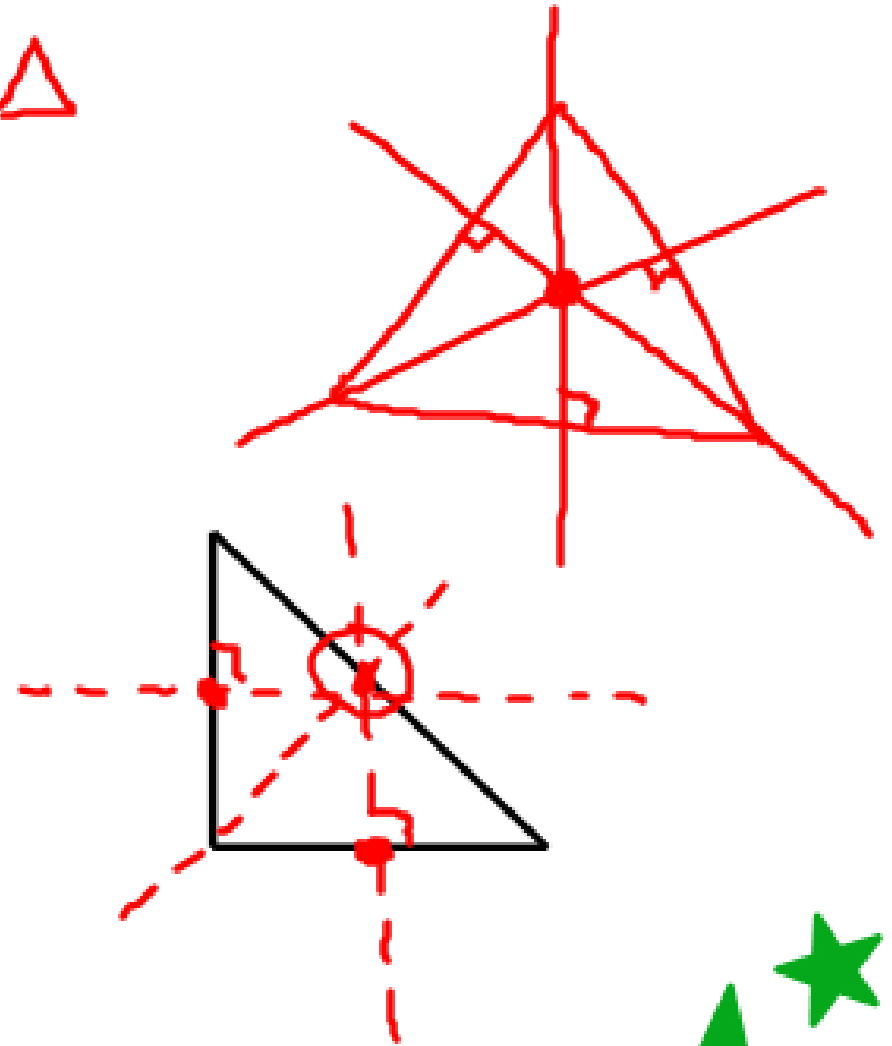
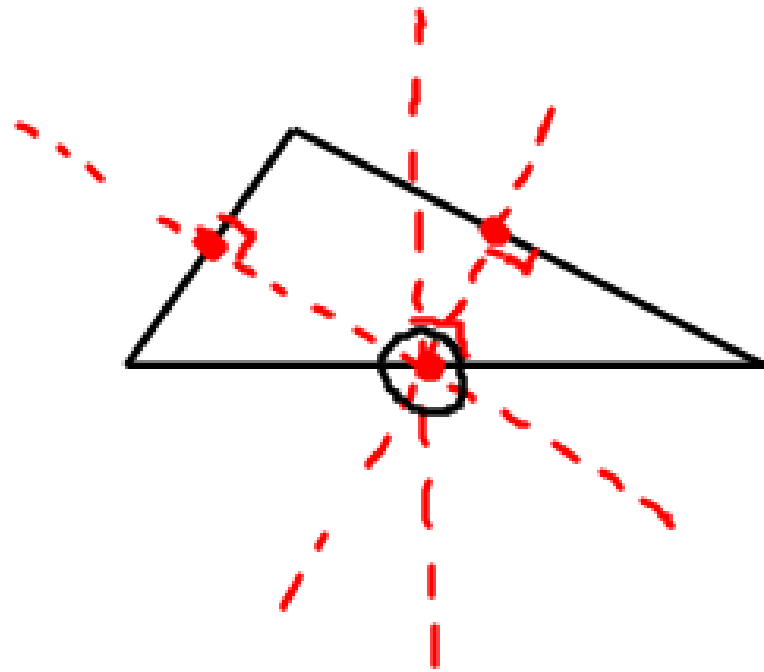
Any point equidistant from the endpoints of a segment lies on the perpendicular bisector of the segment.



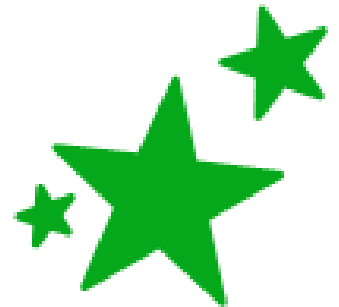
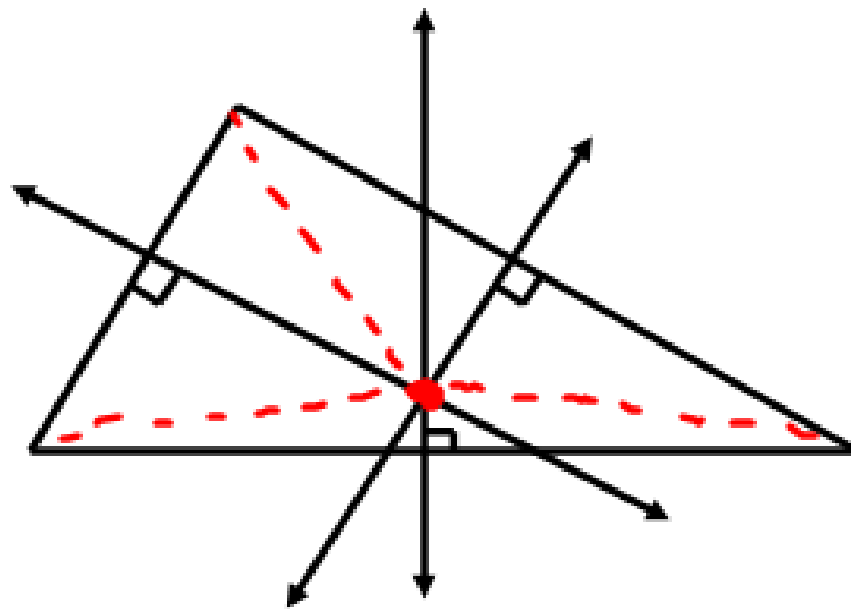
concurrent lines: 3 or more lines that intersect at a common point (point of concurrency)



circumcenter: P.O.C. of \perp bisectors
of sides of a Δ

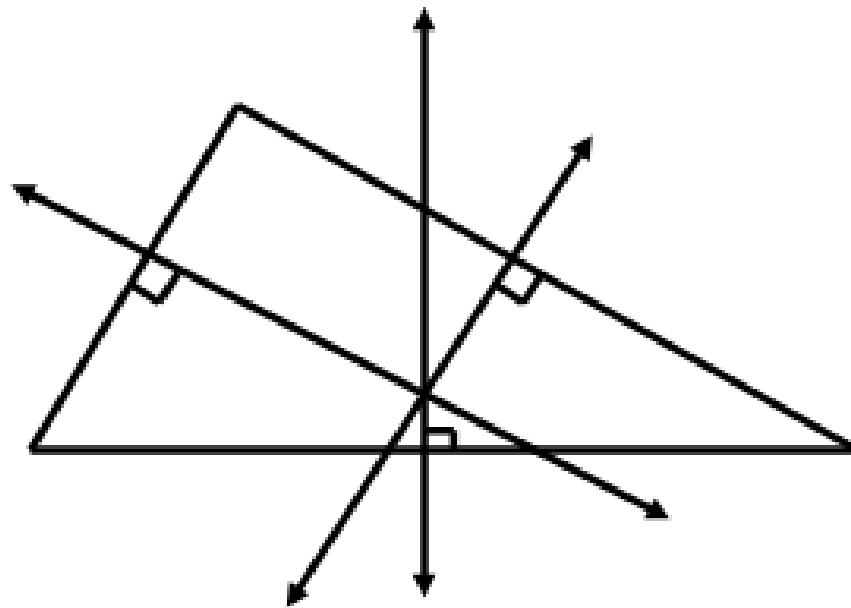


Theorem 5.3 (Circumcenter Theorem):
The circumcenter of a triangle is equidistant from the vertices of the triangle.



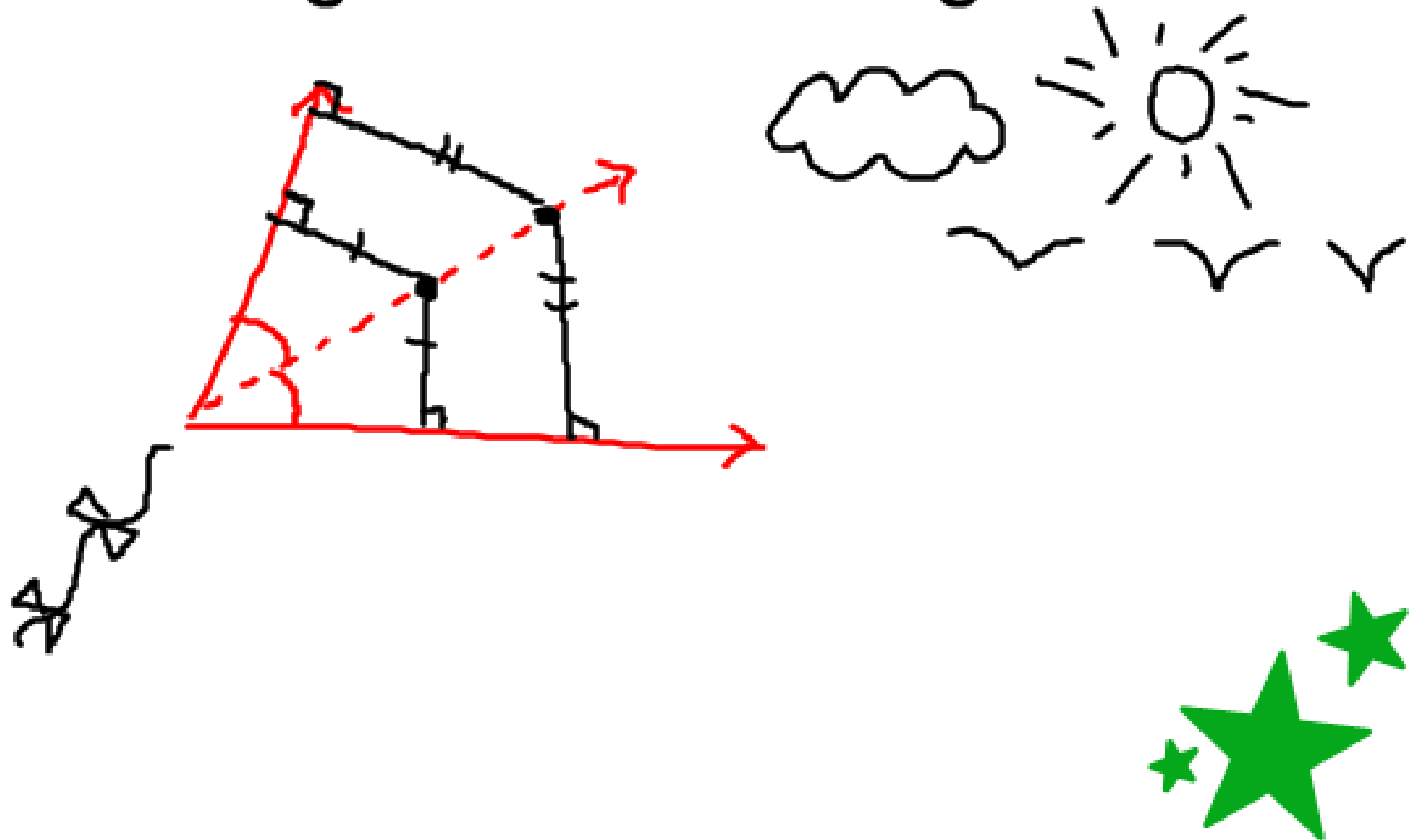
Theorem 5.4:

The circumcenter of a triangle is equidistant from the _____ of the triangle.

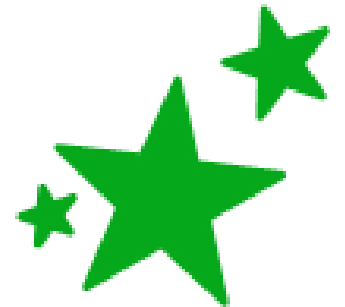
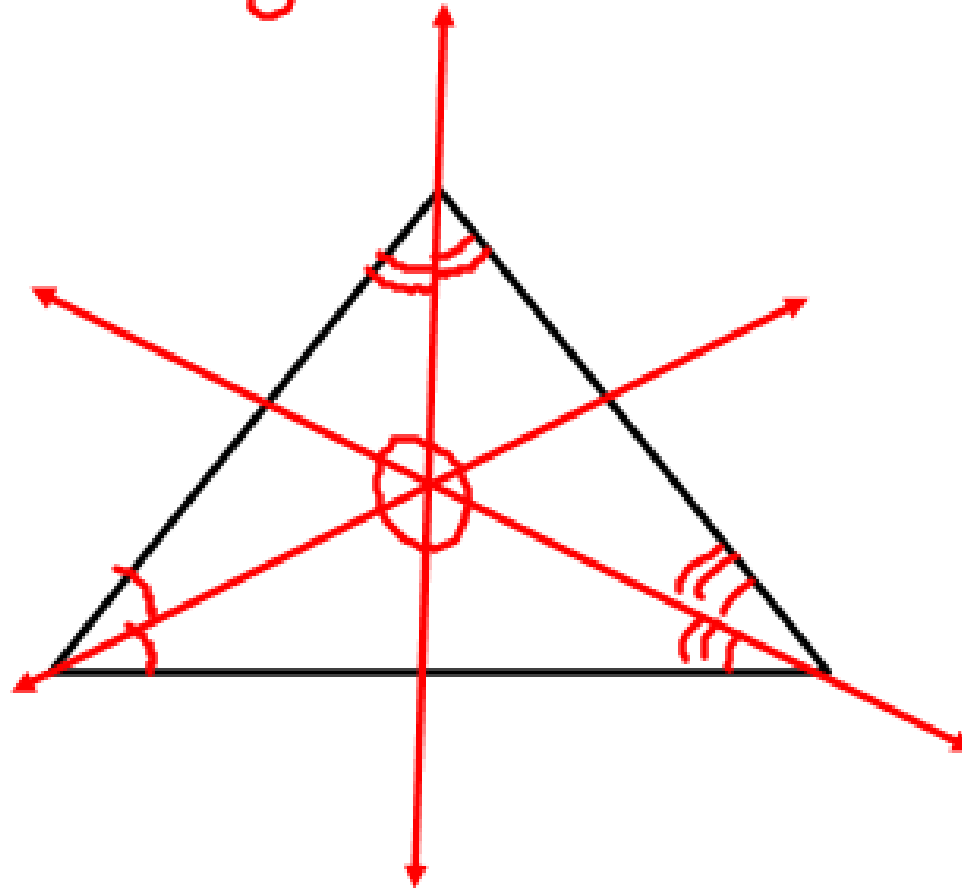


Theorem 5.5:

Any point equidistant from the sides of an angle lies on the angle bisector.



incenter: P.O.C. of the \angle bisectors
of a triangle



Theorem 5.6

incenter is equidistant from sides
(\perp distance)

