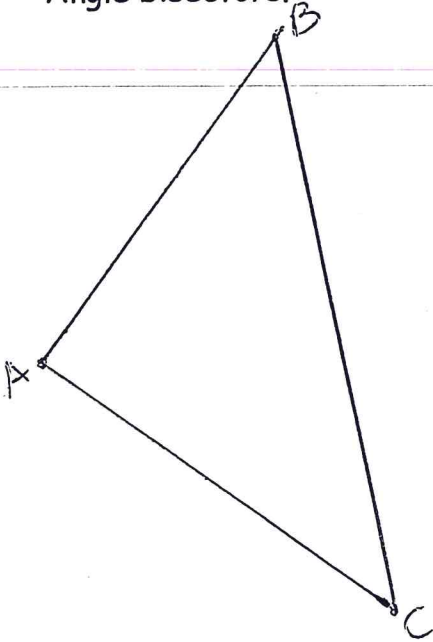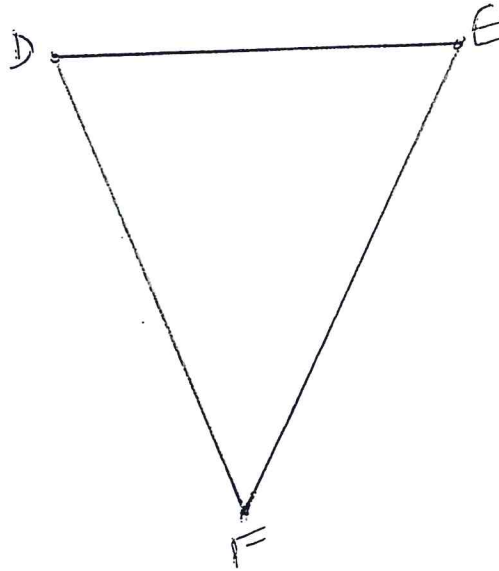Notes 3.7 – Points of Concurrency
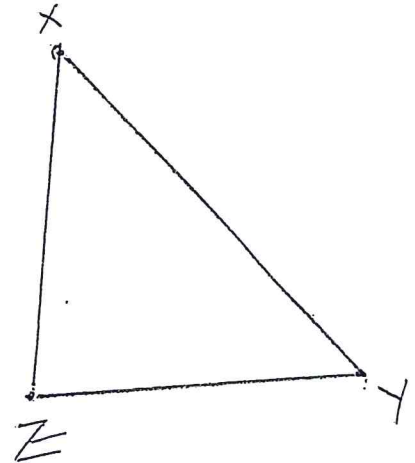
In ∆ABC, construct all 3 Angle bisectors.

In ∆DEF, construct all 3 Perpendicular bisectors.

In ∆XYZ, construct all 3 Altitudes.

Read the definition of "concurrent lines" on p 176. What do you notice about each construction above?

On ∆DEF above, label intersection Q. Put compass point on Q, lead on one vertex, and make a complete circle. What do you notice about the vertices of the triangle?

This is called a "circumscribed circle". Copy definition and sketch from p 179.
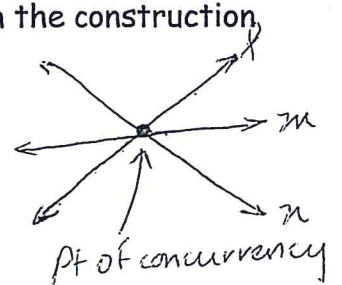The prefix "circum" means "about" or "around". The center of your circle in the construction on ∆DEF is called the "circumcenter". Label it on your construction.
On ∆ABC, the point of intersection is called the "incenter". Label it.
On ∆XYZ, the point of intersection is called the "orthocenter". Label it.
Also define:
"c" concurrent lines – three or more lines that intersect at a point (p 176)

Write up conjectures 9-11 on pp 176-178.
Go to your textbook and copy conjecture number, page number, conjecture title, and text.
C-9 through C-11 – the fill-in-the-blank is "are concurrent". Sketches below.

C-9   incenter

C-10   circumcenter

C-11   orthocenter
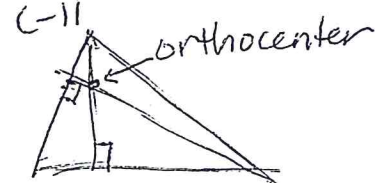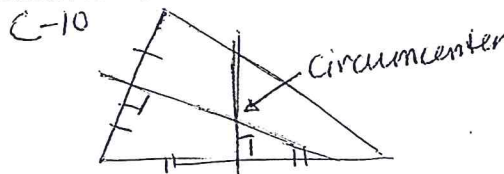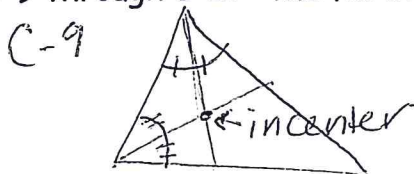
HW #14 – p 162: 1 or 2, 3; pp 180-1: 4-7, 12, 20-24, p 169:1-3
(Total constructions on HW: eight)