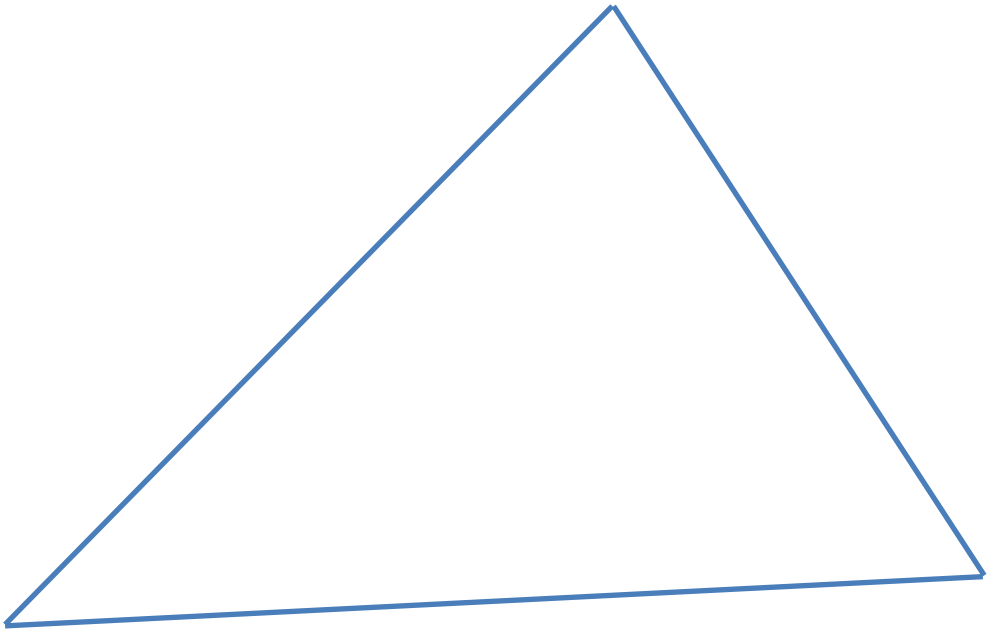
Geometry: **Points of Triangle Concurrency** Name:_____ Per:_____ Date:_____

Construction of each point of concurrency

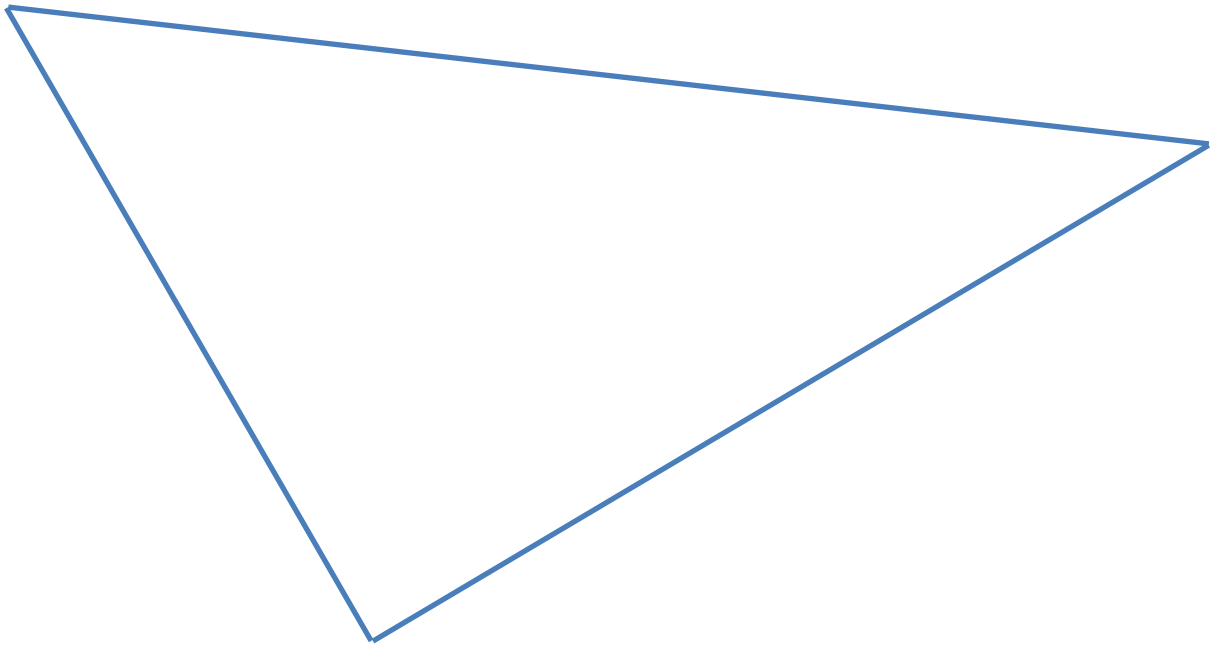
Orthocenter Construction –

Construct the _____of each side of the triangle. Label the intersection as point O. This is the orthocenter.



Centroid Construction –

Construct the _____ of each side of the triangle. Label the intersection as point C. This is the centroid.



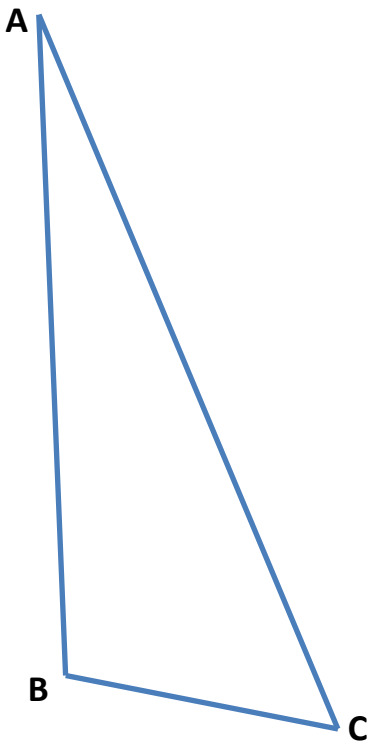
A. **The centroid divides the median in a ratio of _____**

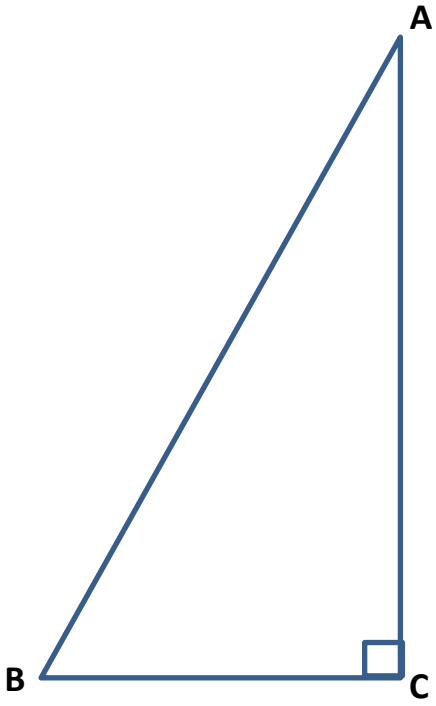
B. **The distance from the vertex to the centroid is _____ of the total median length.**

C. **The distance from the midpoint of one side to the centroid is _____ of the total median length.**

Circumcenter Construction –

Construct the _____ of each side for the right triangle and obtuse triangle below. Label the intersection as point M. Draw the circumscribed circle for each triangle.





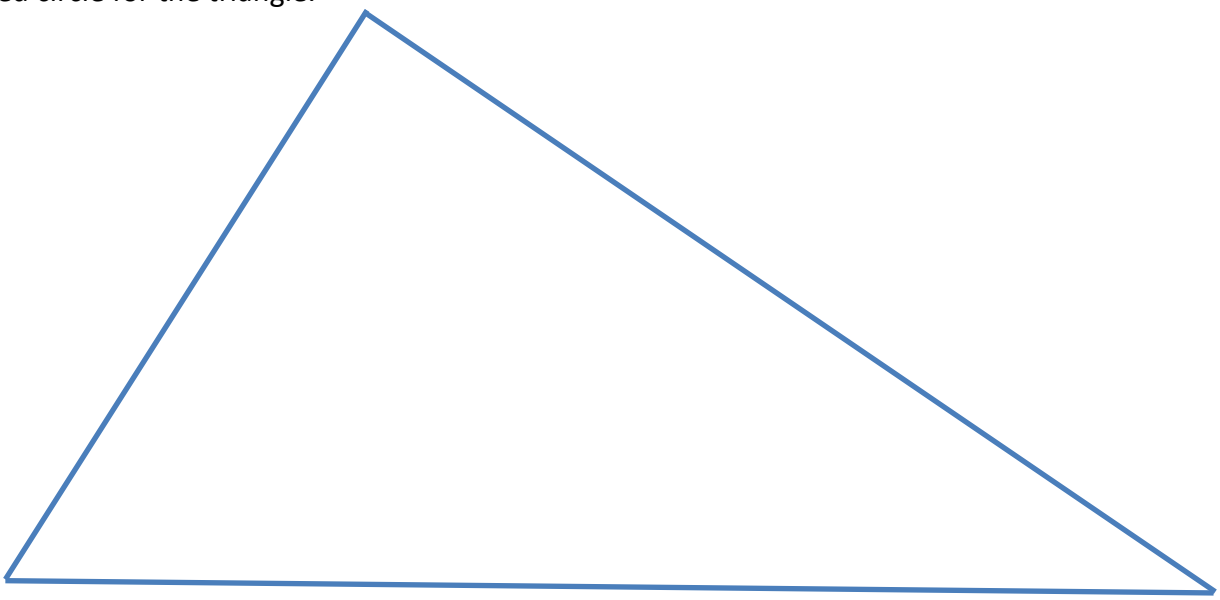
Mark any lengths that are congruent in each triangle.

Make a conjecture about the location of the circumcenter of a triangle when the triangle is:

- acute
- obtuse
- right

Incenter Construction –

Construct the _____ of each side for the triangle below. Label the intersection as point J. Draw the inscribed circle for the triangle.



Mark any lengths and angles that are congruent in the triangle.