Triangle Factoids Summary Page

The following **definitions** of relationships in triangles are important numerically and relationally for our understanding of triangles.

Our goal is to apply these definitions to draw the given structures of the triangles and to apply the numerical relationships to answer questions posed.

A ***perpendicular bisector*** *of a side of a triangle* is a line, segment or ray that passes through the midpoint of the side of the triangle and is perpendicular to that side. Every triangle has 3 perpendicular bisectors.

- A *rule to remember*: any point on the perpendicular bisector, when connected to both ends of the segment it bisects, creates an isosceles triangle!

An **angle bisector** does just that – it ***bisects*** one angle of the triangle, and does not touch any special point on the opposite side. ***All it does it bisect the one angle!***

A **median of a triangle** connects one angle of a triangle to the *midpoint* of the opposite side of the triangle. ***One median does only one thing – it shows the midpoint of the side!*** But, every triangle has 3 medians, one from each vertex.

Two or three medians, together, however, do much more!

- The point where the medians of a triangle meet is called the **centroid** of the triangle and…
- The centroid of a triangle is located **two-thirds of the distance** from the vertex to the midpoint of the side opposite the vertex on the median. What does that mean for this diagram?