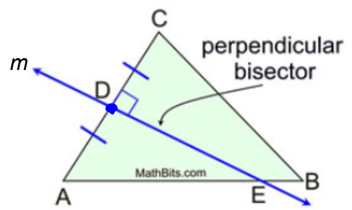
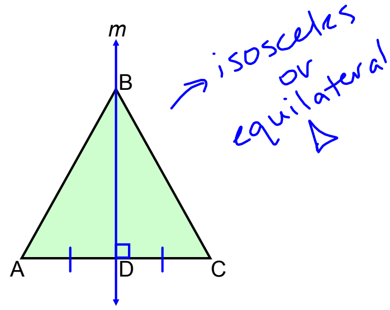
Segments in Triangles

A perpendicular bisector is a line (or segment or ray) that is perpendicular to a side of the triangle and also bisects that side of the triangle.

The perpendicular bisector may, or may NOT, pass through the vertex of the triangle.



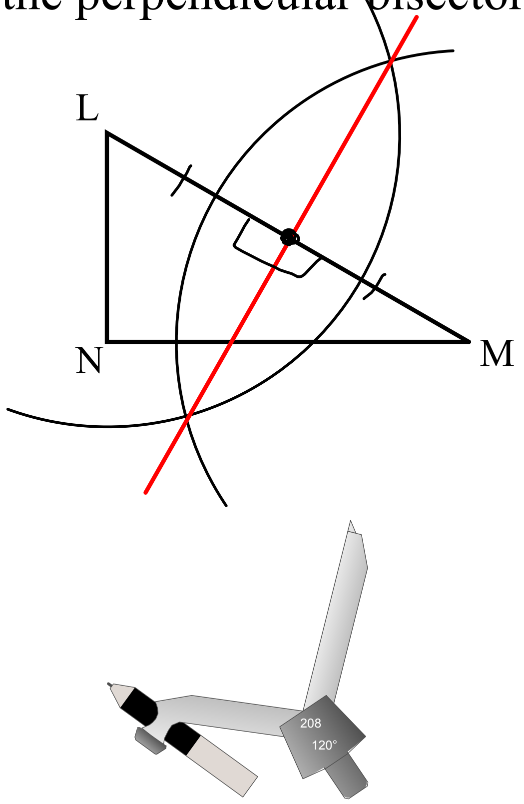


If line m is the perpendicular bisector of $\overline{AC}$, then $\angle ADB$ and $\angle ADC$ are right angles and D is the midpoint of $\overline{AC}$

therefore $\overline{AD} \cong \overline{DC}$

Nov 4-1:22 PM

Construct the perpendicular bisector of $\overline{LM}$



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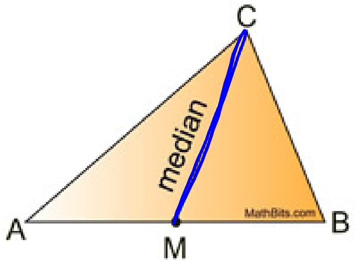
A median of a triangle is a segment joining any vertex of the triangle to the midpoint of the opposite side.



If $\overline{CM}$ is a median in ΔABC, then M is the

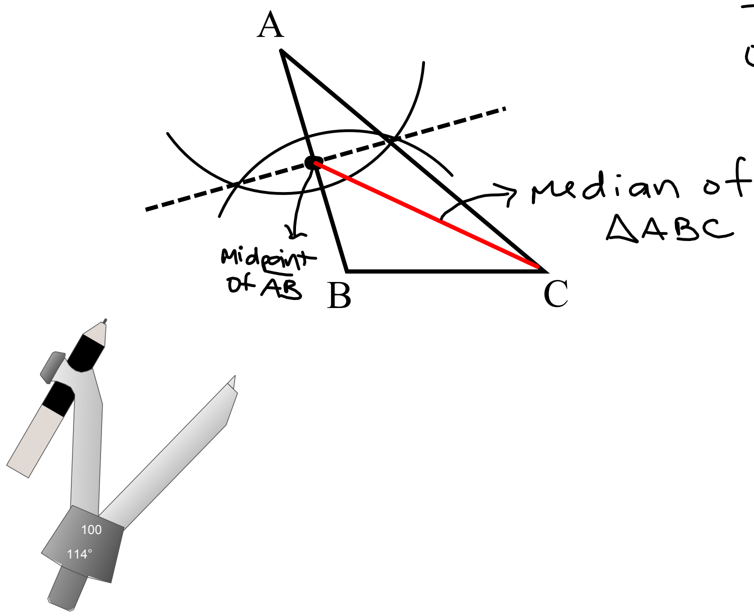
midpoint of $\overline{AB}$

and $\overline{AM} \cong \overline{MB}$

Nov 4-1:20 PM

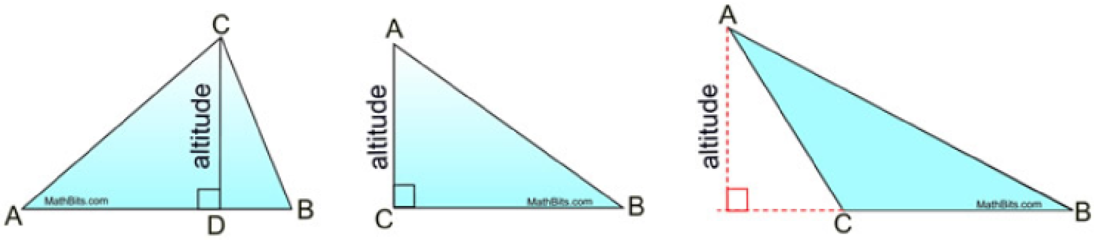
Construct a median from vertex C.

$\perp$ bisector to locate midpoint of $\overline{AB}$



Sep 27-10:24 AM

An altitude of a triangle is a segment from any vertex perpendicular to the line containing the opposite side.

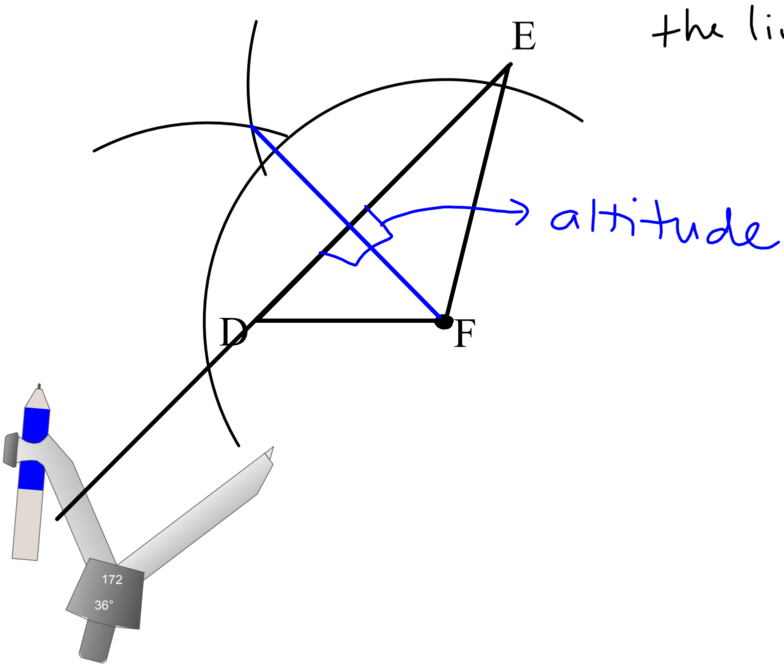


Altitudes are perpendicular and form right angles.

They may, or may NOT, bisect the side to which they are drawn.

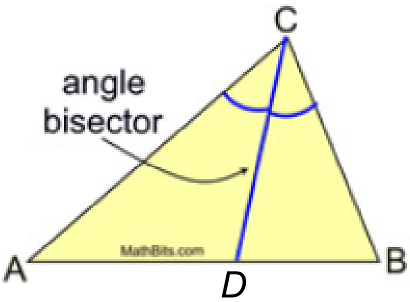
Nov 4-1:21 PM

Construct an altitude from vertex F. → ⊥ to a line from a point off the line



Sep 27-10:27 AM

An angle bisector is a ray from the vertex of the angle into the opposite side, which forms two congruent angles.

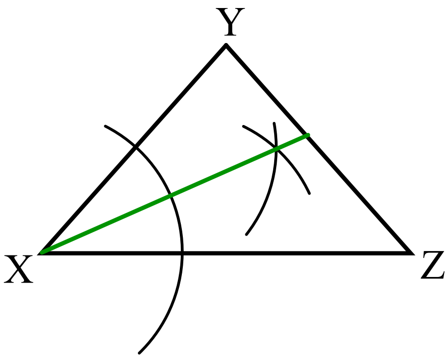


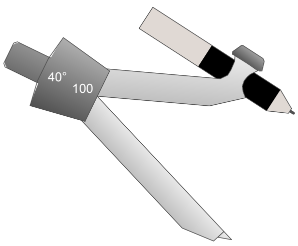
If $\overline{CD}$ is the angle bisector of $\angle ACB$, then

$\angle ACD \cong \angle BCD$

Nov 4-1:22 PM

Bisect angle X





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