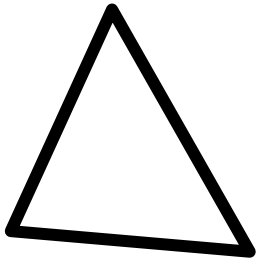
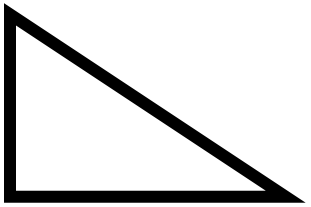
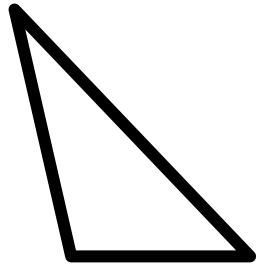
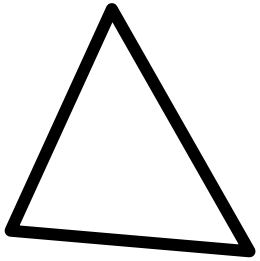
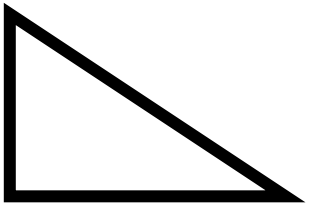
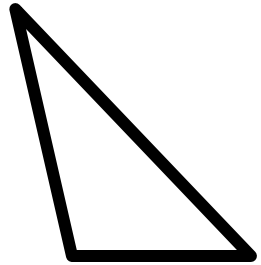
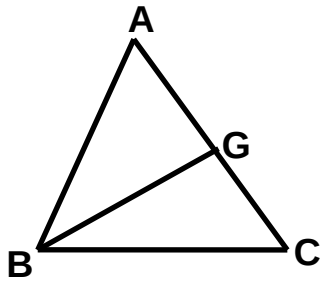
TOPIC 5-4: Special Segments in a Triangle (Watch Video)

Segment Name	Definition	ACUTE	RIGHT	OBTUSE
M Median	**A segment from the vertex of the triangle to the midpoint of the side opposite of that vertex**.			
A Altitude	**A segment from the vertex of the triangle and must be perpendicular to the opposite side. This segment does not have to bisect the other side.**			

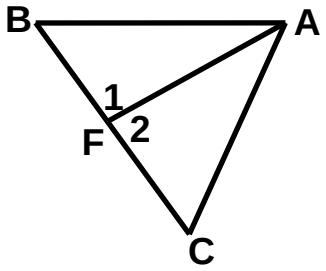
EXAMPLE 1

$\overline{BG}$ is a median. Find AC if BG = 4x + 10, AG = 6x + 4, CG = 7x – 5.



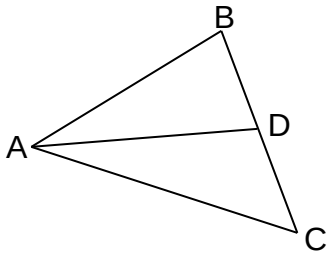
EXAMPLE 2

Given that AF is an altitude, find the value of x if $m\angle 1 = (8x+18)°$.



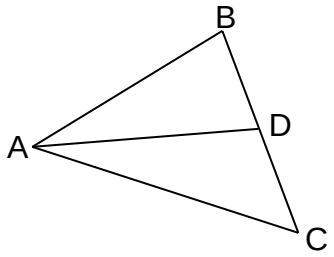
EXAMPLE 3

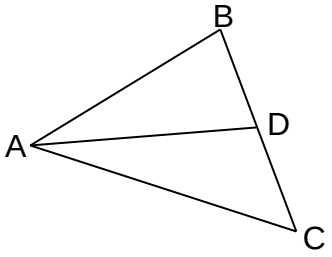
Given ∆ABC with median AD. If BD = 10x – 6, DC = 6x + 10, and AD = 3x – 5, find the length of BC.



EXAMPLE 4

Given ∆ABC with altitude AD, find the value of "x" if m∠ADC = (5x-5)°.



EXAMPLE =5

$\overline{AD}$ serves as both a median and an altitude. Find the value of CD if m∠ADB = (6x+12)° and DB= 2x+10.