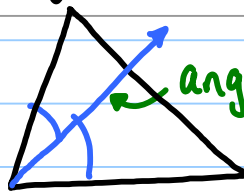
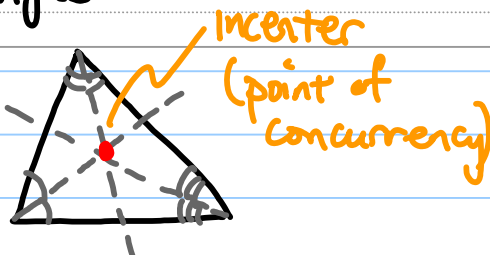


# 6.3 Angle Bisectors of Triangles

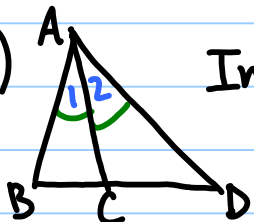


angle bisector



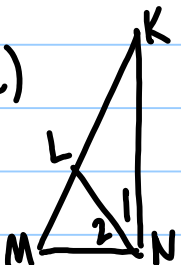
Incenter  
(point of  
concurrency)

ex 1)



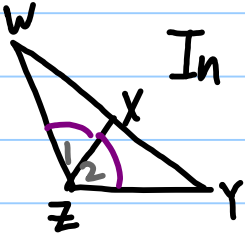
In  $\triangle ABD$ ,  $\overline{AC}$  bisects  $\angle BAD$ .  
If  $m\angle 1 = 41$ , find  $m\angle 2$ .  
 $\rightarrow 41^\circ$

ex 2)



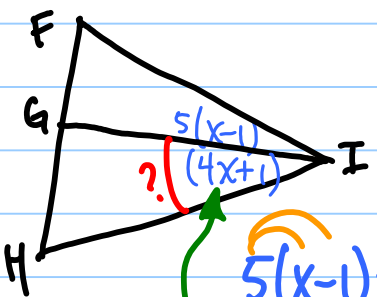
In  $\triangle KMN$ ,  $\overline{NL}$  bisects  $\angle KNM$ .  
If  $\angle KNM$  is a right angle,  
find  $m\angle 2$ .  
 $\rightarrow \frac{1}{2}(90^\circ) = 45^\circ$  (right  $\angle$ )

ex 3)



In  $\triangle WYZ$ ,  $\overline{ZX}$  bisects  $\angle WZY$ .  
If  $m\angle 1 = 55^\circ$ , find  
 $m\angle WZY$ .  
 $\rightarrow 2(55) = 110^\circ$

ex 4)



In  $\triangle FHI$ ,  $\overline{IG}$  is  
an angle bisector.  
Find  $m\angle HIG$ .

$$\begin{aligned}
 5(x-1) &= 4x+1 \\
 5x-5 &= 4x+1 \\
 \underline{-4x} \quad & \underline{-4x} \\
 x-5 &= 1 \\
 \underline{+5} \quad & \underline{+5} \\
 x &= 6
 \end{aligned}$$

$$\begin{aligned}
 m\angle HIG &= 4(6)+1 = 25^\circ
 \end{aligned}$$