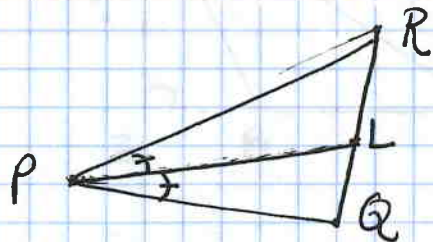


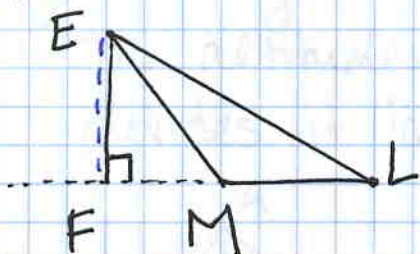
## 11.4 Corresponding Parts of Similar Triangles

Q: What is segment  $\overline{PL}$  called?



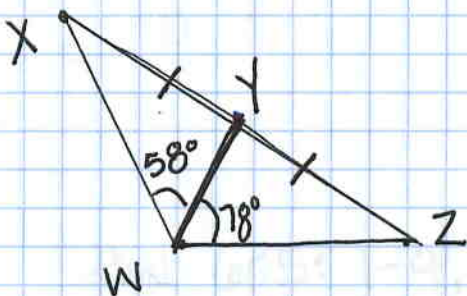
A: Angle Bisector  
cuts angle in half  
2 equal angles

Q: What is  $\overline{EF}$  called?



A: Altitude  
Height  
perpendicular from one  
point to the other side  
(possibly extended)

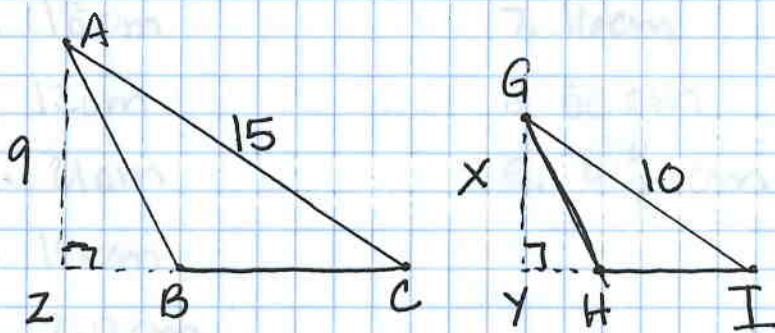
Q: What is  $\overline{WY}$  called?



A: Median  
one vertex to the  
opposite midpoint

Proportional Parts Conjecture: If two triangles are similar, then the lengths of the corresponding Altitudes, Angle Bisectors, and Medians are proportional.

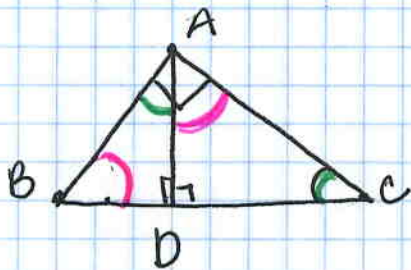
if  $\triangle ACB \sim \triangle GIH$ . Find  $x$ .



$$\frac{x}{10} = \frac{9}{15} \quad \frac{90}{15} = \frac{15x}{15} \quad \underline{\underline{x=6}}$$

Right Triangle Altitude Similarity

The altitude of a right triangle <sup>through the right angle</sup> divides it into two similar triangles



$$\triangle ABC \sim \triangle DAC \sim \triangle DBA$$

HW 605: 1-9,