

## Ray Bisects an Angle of a Triangle

If a ray bisects an angle of a triangle, it divides the opposite side into segments whose lengths are proportional to the lengths of the other two sides.

In 1-4, refer to  $\triangle ABC$  with  $\angle 1 \cong \angle 2$

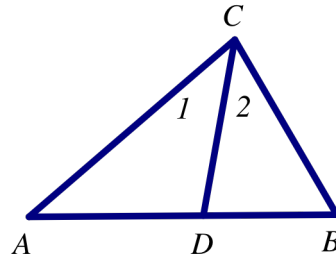
1. Complete the proportion

$$\frac{AD}{DB} = \frac{AC}{BC}$$

2. Complete the proportion

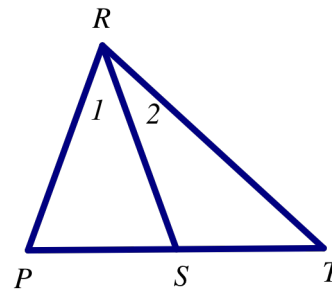
$$\frac{AC}{AD} = \frac{BC}{DB}$$

3. If  $AD = 6$ ,  $DB = 4$  and  $AC = 8$ ,  
then  $BC =$
4. If  $AD = 8$ ,  $DB = 6$  and  $BC = 8$ ,  
then  $AC =$



In 5 & 6, refer to  $\triangle PTR$  with  $\angle 1 \cong \angle 2$

5. If  $PS = 6$ ,  $ST = 8$  and the perimeter  
of  $\triangle PTR = 70$ , find  $PR$ .
6. If  $PS = 5$ ,  $ST = 7$  and the perimeter  
of  $\triangle PTR = 48$ , find  $RT$



7. Draw  $\triangle GHK$  with the following  
information.  $\overline{KE}$  bisects  $\angle GKH$ .  
If  $GE = 8$ ,  $EH = 5$  and  $GK = 12$ ,  
Find  $KH$ .