

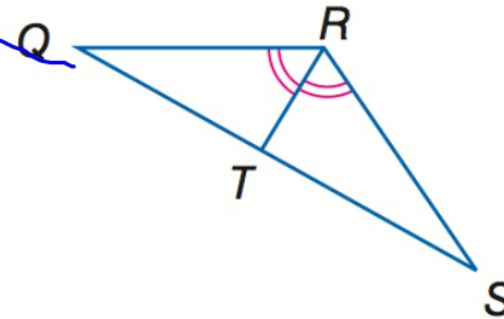
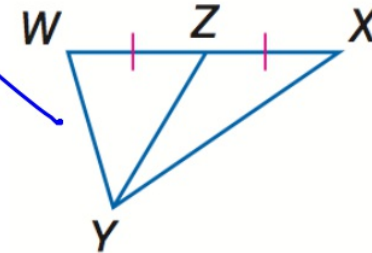
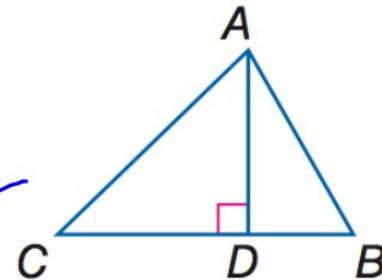
Geometry BELL WORK

Match each special segment name with its picture.

median : *middle*

angle bisector

altitude : *height*



7-5 Parts of Similar Triangles

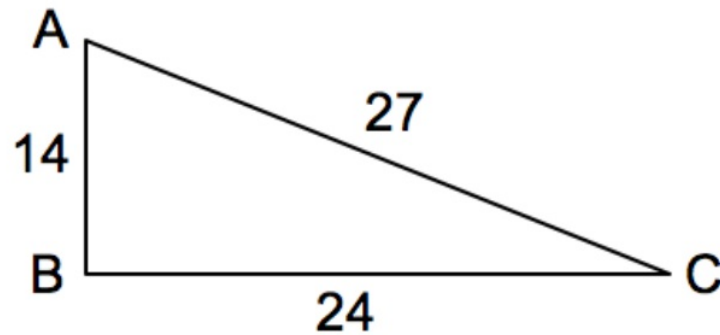
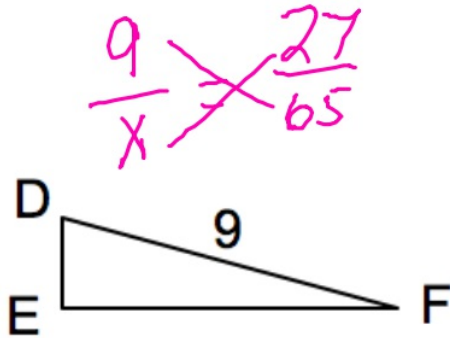
Today you will: Recognize and use proportional relationships of corresponding angle bisectors, perimeters, altitudes, and medians and use the Triangle Bisector Theorem

Content standard: G-SRT Similarity: Understand similarity in terms of similarity transformations

If 2 triangles are similar, then the perimeters are proportional to the measures of the corresponding sides.

$$\triangle ABC \sim \triangle DEF$$

What is the perimeter of $\triangle DEF$?



$$\frac{9}{27} = \frac{X}{65}$$

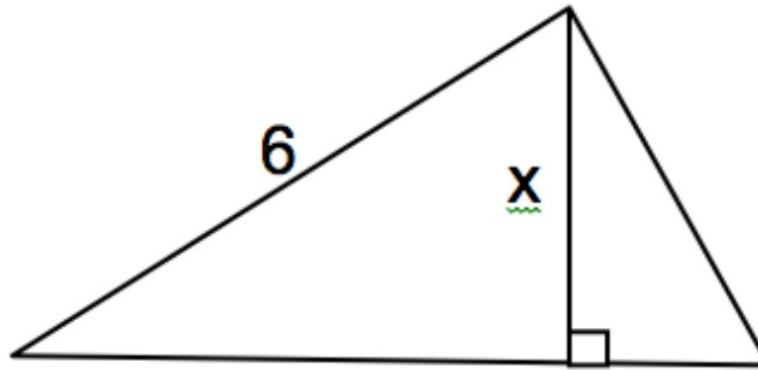
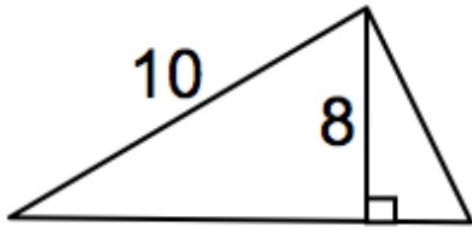
$$\frac{585}{27} = \frac{27X}{27}$$

$$21.6 = X = \text{perimeter of } \triangle DEF$$

perimeter:

$$14 + 27 + 24 = 65$$

If 2 triangles are similar, then the measures of the corresponding altitudes are proportional to the measures of the corresponding sides.

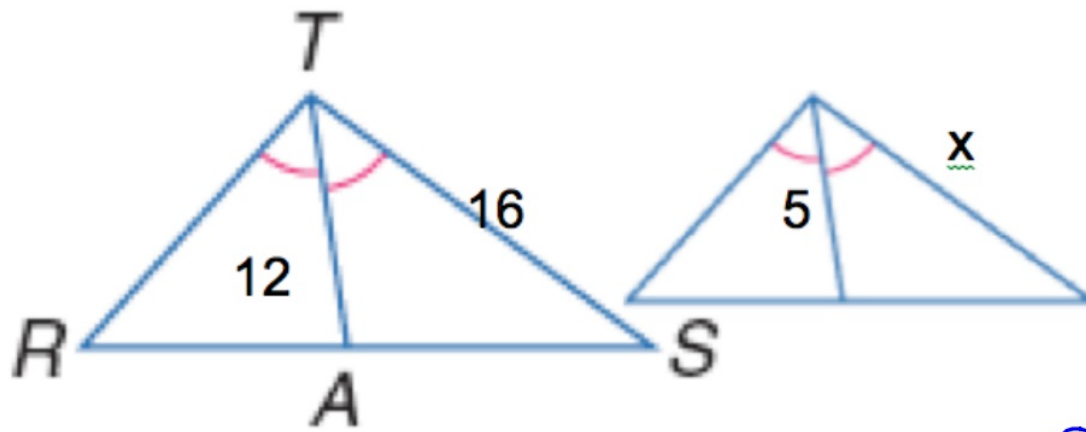


$$\frac{10}{8} = \frac{6}{x}$$

$$\frac{48}{10} = \frac{10x}{10}$$

$$x = 4.8$$

If 2 triangles are similar, then the measures of the corresponding angle bisectors are proportional to the measures of the corresponding sides.



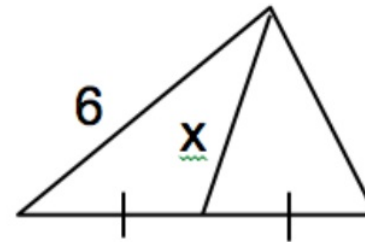
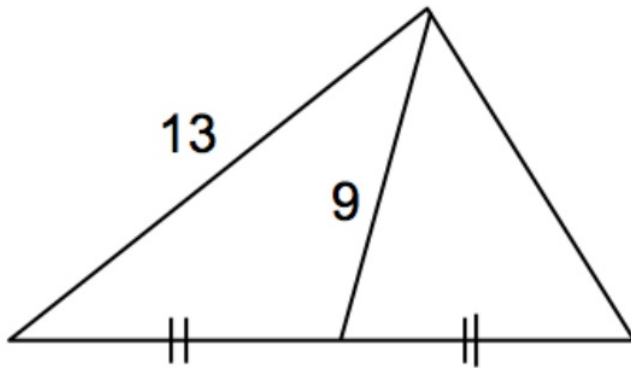
$$\frac{x}{16} = \frac{5}{12}$$

$$\frac{80}{12} = \frac{12x}{12}$$

$$6.6 = x$$

$$\begin{array}{r} \div 2.4 \\ 12 = 5 \\ \hline 16 = x \\ \div 2.4 \\ \hline x = 6.67 \end{array}$$

If 2 triangles are similar, then the measures of the corresponding medians are proportional to the measures of the corresponding sides.

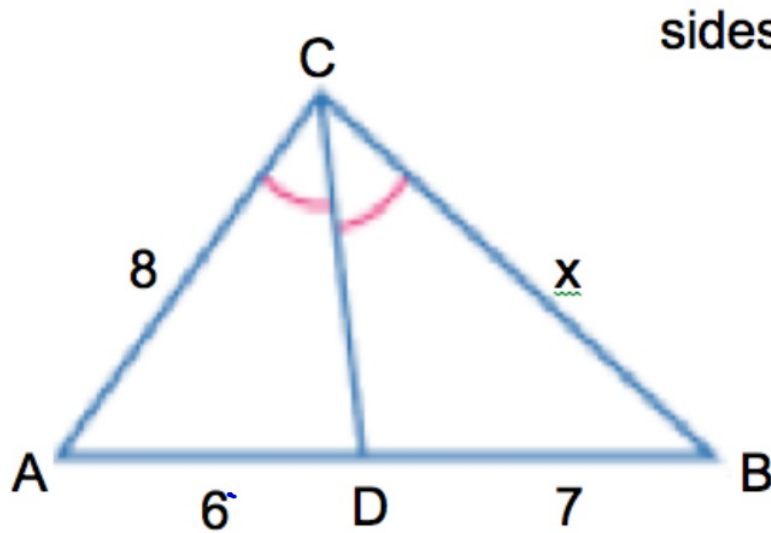


$$\frac{13}{6} = \frac{9}{x}$$

$$x = 4.2$$

$$\frac{54}{13} = \frac{13x}{13}$$

An angle bisector in a triangle separates the opposite side into segments that have the same ratio as the other 2 sides.



sides with vertex A sides with vertex B

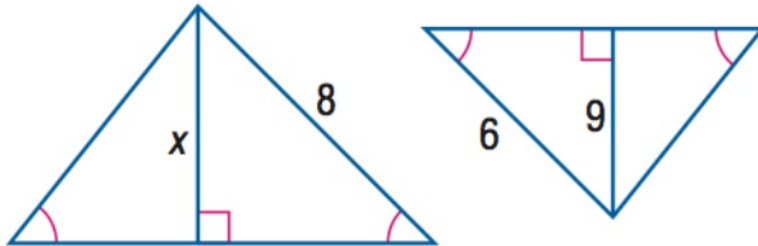
$$\frac{AC}{AD} = \frac{CB}{DB}$$

$$\frac{8}{6} = \frac{x}{7} \quad \frac{56}{6} = \frac{6x}{6}$$

9.3 = x

Homework: 7-5 pg 489-490 #2-14 even

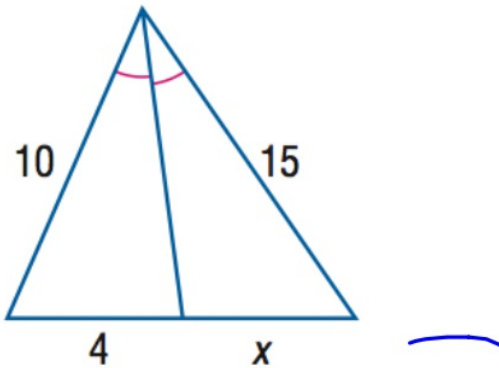
2.



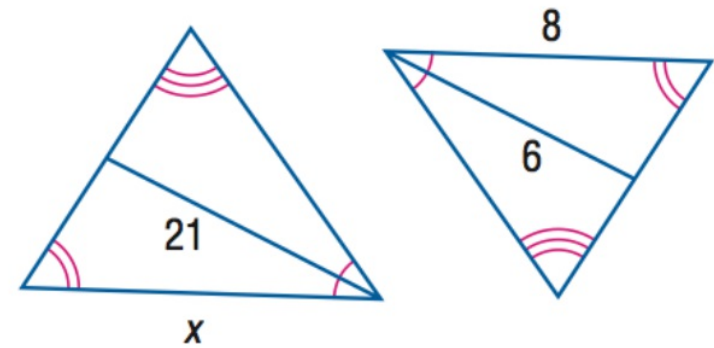
Find x .

Find the value of each variable.

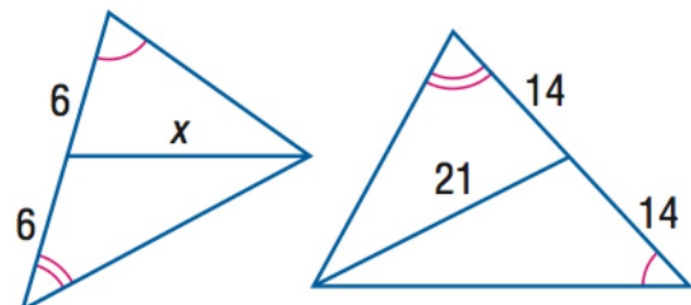
4.



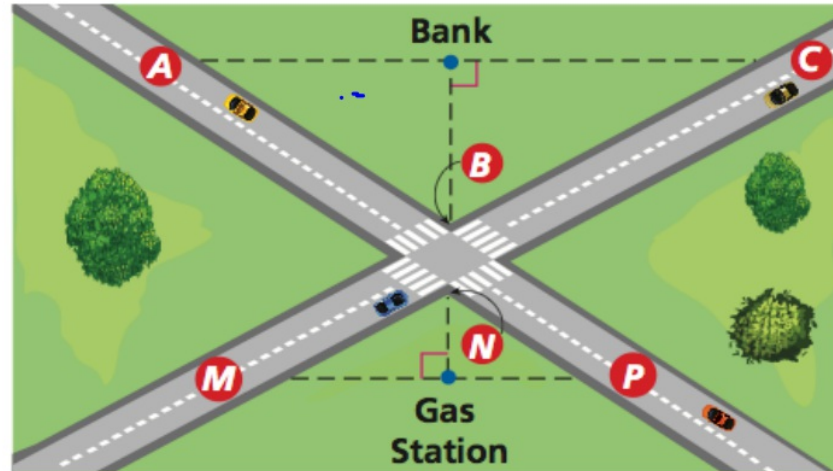
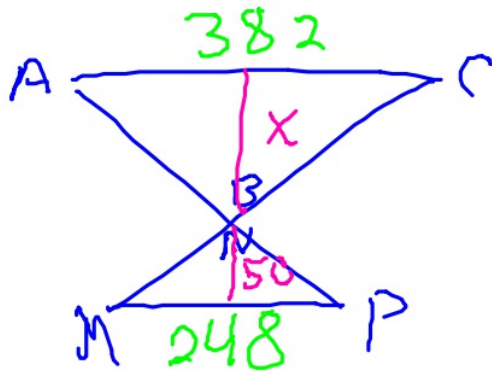
6.



8.

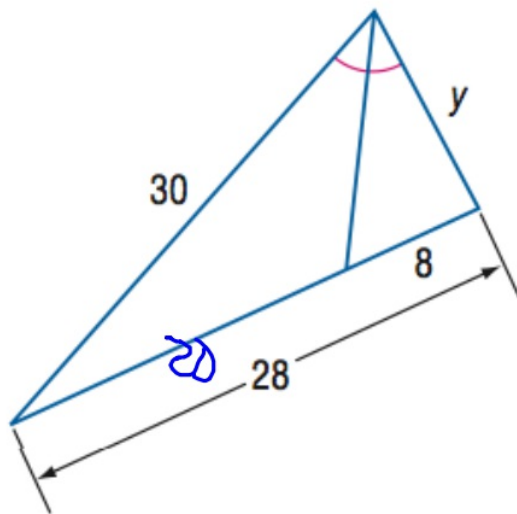


10. ROADWAYS The intersection of the two roads shown forms two similar triangles. If AC is 382 feet, MP is 248 feet, and the gas station is 50 feet from the intersection, how far from the intersection is the bank?



Find the value of each variable.

12.



14.

