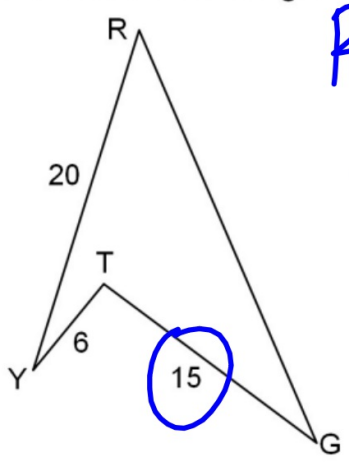
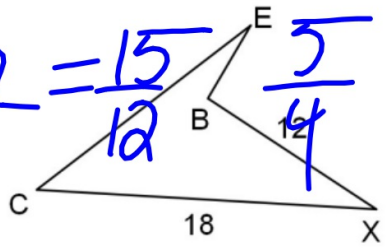
1. Write a similarity statement and give a similarity ratio for these similar figures.

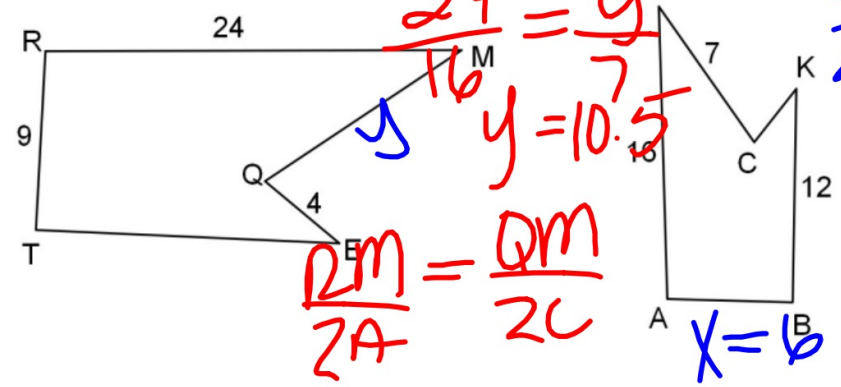




RGTY ~ CXBE sim stat.

$\frac{TG}{BX} = \frac{15}{12} = \frac{5}{4}$ sim. ratio

2. Given the figures are similar, find the lengths of $\overline{AB}$ and $\overline{QM}$.



$\frac{24}{16} = \frac{y}{7}$

$y = 10.5$

$\frac{RM}{ZA} = \frac{QM}{ZC}$

$\frac{RM}{ZA} = \frac{RT}{AB}$

$\frac{24}{16} = \frac{9}{x}$

$x = 6$

$x = 6$

3. Use this proportion $\frac{8}{15} = \frac{c}{11}$

fill in the blanks to make each statement true.

a) $\frac{8}{c} = \frac{15}{11}$

b) $\frac{15}{8} = \frac{11}{c}$

c) $88 = 15c$

d) $\frac{23}{15} = \frac{c+11}{11}$

4. The scale on a drawing of a truck is 2 : 27
Round answers to the nearest hundredth.

a) If the truck is 10 feet wide how wide is the truck in the drawing. Give your answer in inches.

$\frac{2}{27} = \frac{x}{10}$ $x = 0.74ft$ $*12$ $= 8.89in$

b) If the drawing of the truck is 9.5 inches tall how tall is the actual truck. Give your answer in feet.

$\frac{2}{27} = \frac{9.5}{x}$ $x = 128.25in$ $\frac{128.25in}{12}$ $= 10.69ft$

Section 7.2 - Similar Polygons

Objectives: I can identify similar polygons and apply similar polygons by using ratios & proportions.

G-SRT.A.2

Content Objective: Students will identify and apply similar polygon.

Language Objective: Students will apply the definition of similar to answer the following: Are two congruent figures similar? Explain your answer.

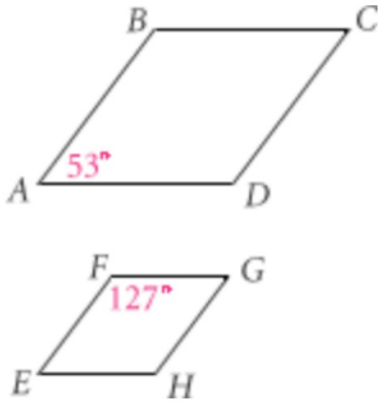
- Two figures that have the same shape but not necessarily the same size are similar (~).

Two polygons are similar if
(1) corresponding angles are congruent.
(2) corresponding sides are proportional.

The ratio of the lengths of corresponding sides is the similarity ratio.

1 EXAMPLE Understanding Similarity

$ABCD \sim EFGH$. Complete each statement.

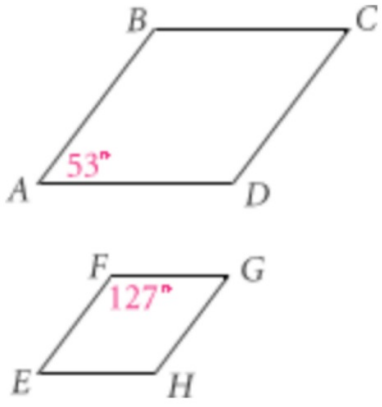


a. $m\angle E =$ ■

b. $\frac{AB}{EF} = \frac{AD}{■}$

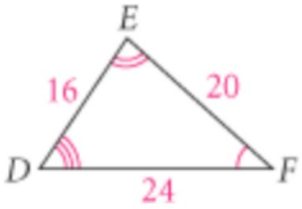
Check Understanding

Complete: $m\angle B = ?$ and $\frac{GH}{CD} = \frac{FG}{?}$.



2 EXAMPLE Determining Similarity

Determine whether the triangles are similar. If they are, write a simialrity statement and give the similarity ratio.



Check Understanding

Sketch $\triangle XYZ$ and $\triangle MNP$ with $\angle X \cong \angle M$, $\angle Y \cong \angle N$, and $\angle Z \cong \angle P$. Also, $XY = 12$, $YZ = 14$, $ZX = 16$, $MN = 18$, $NP = 21$, and $PM = 24$. Can you conclude that the two triangles are similar? Explain.

$\triangle XYZ \sim \triangle MNP$

$\frac{12}{18} = \frac{2}{3}$ $\quad \frac{16}{24} = \frac{2}{3}$ $\quad \frac{14}{21} = \frac{2}{3}$