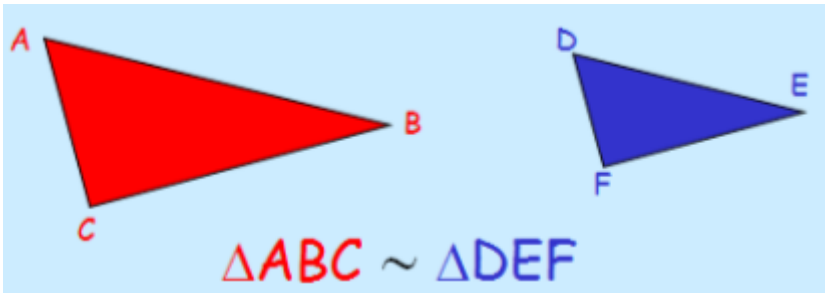
Unit 5-Lesson 8---Similarity Review

- Similar triangles are trianlges that have the _____ but not necessarily the _____
- When we say that triangles are _____ there are several results that come from it.



Fill in the following statements:

$\angle A \cong \angle$_____

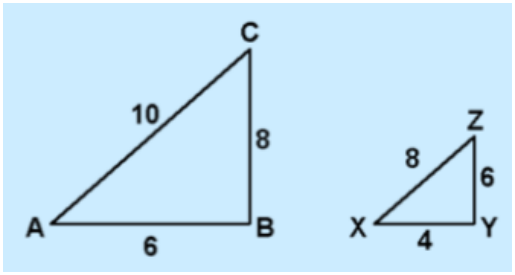
$\angle B \cong \angle$_____

$\angle C \cong \angle$_____

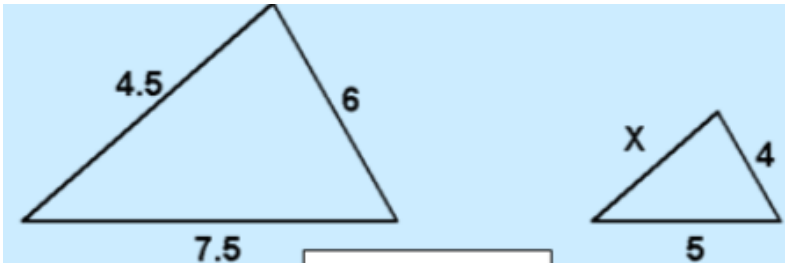
$\overline{AB} = \overline{BC} = \overline{AC}$

Ex 1: Can these triangles be similar? Why or why not?

_____



Ex 2: The two triangles below are known to be similar, determine the missing value of x.



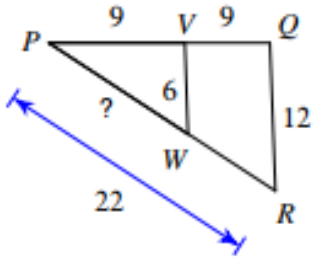
Ex 3: Given that $\Delta JHK \sim \Delta POM$, $\angle H = 90°$, $\angle J = 40°$, $\angle M = x + 5$, and $\angle O = y$, find the value of x and y.

x=_____

y=_____

Ex 4: Find the missing value

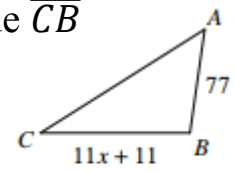
x=_____

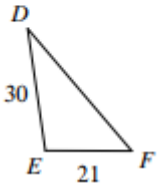


Ex 5: Find the missing value of x and the length of side $\overline{CB}$

x=_____

$\overline{CB}$=_____

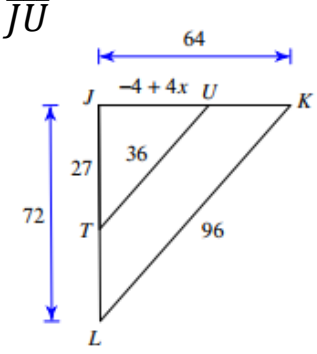




Ex 6: Find the missing value of x and the length of side $\overline{JU}$

x=_____

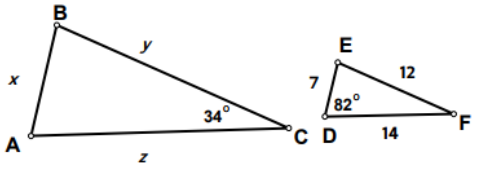
$\overline{JU}$=_____



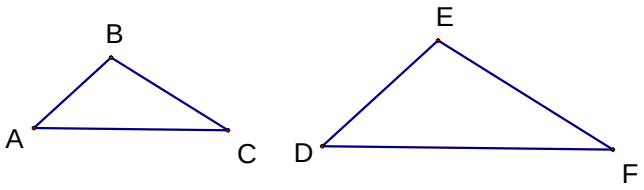
Ex 7: Find the missing value of x and the length of side $\overline{CB}$, $\overline{AB}$, $m\angle A$, $m\angle F$, and $m\angle B$

x=_____ $m\angle A$=_____ $m\angle B$=_____

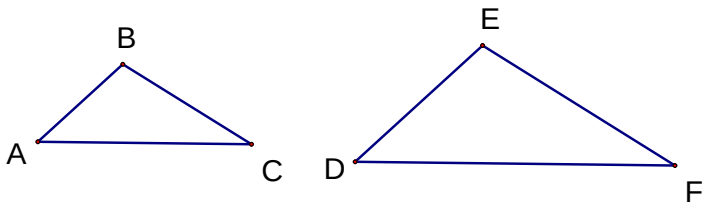
y=_____ $m\angle F$=_____



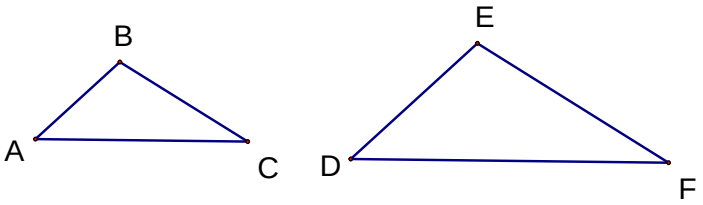
I. **AA Similarity (Angle-Angle) If**_____ angles of one triangle are congruent to _____ angles of another triangle, then the triangles are _____.



II. **SSS Similarity (Side-Side-Side)** If the measures of the corresponding _____ of 2 triangles are proportional, then the triangles are _____.

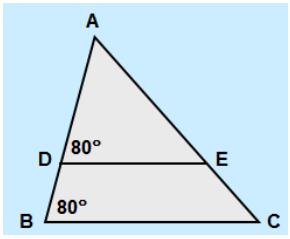


III. **SAS Similarity (Side-Angle-Side)** If the measures of _____ sides of a triangle are proportional to the measures of_____ corresponding sides of another triangle and the angles between them are congruent, then the triangles are _____.



Show how the triangles are similar (if they are similar), state the reason and show all the values.

1.



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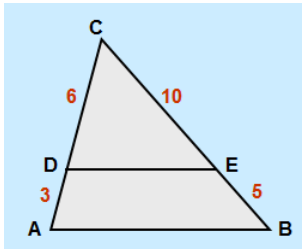

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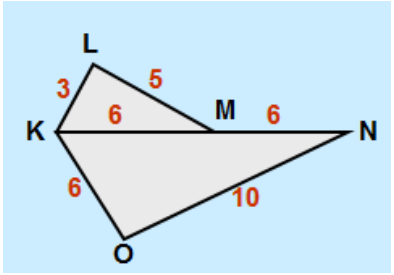

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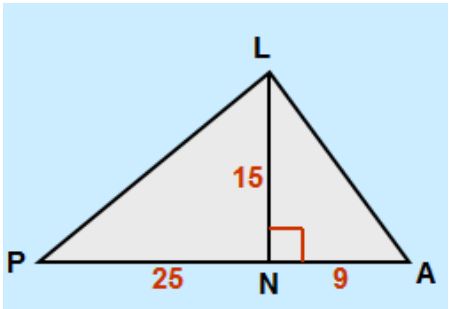


Unit 5-Lesson 8 Practice – Similar Triangles

Solve each proportion by using cross-products.

1. $\frac{9}{28}=\frac{x}{84}$
2. $\frac{3}{18}=\frac{4x}{7}$
3. $\frac{3}{b+16}=\frac{4}{48}$
4. $\frac{5}{k+17}=\frac{8}{152}$
5. $\frac{x+5}{7}=\frac{x+3}{5}$

Solve each proportion. Circle your final answer.

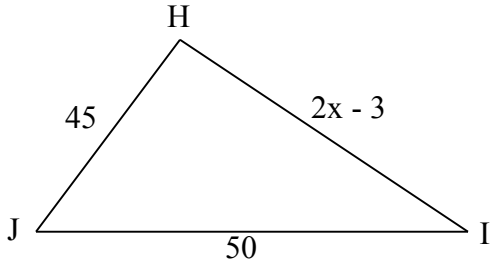
1. $\frac{5}{6}=\frac{x}{9}$
2. $\frac{2}{8}=\frac{x}{20}$
3. $\frac{-8}{11}=\frac{12}{x}$
4. $\frac{3}{x}=\frac{20}{-35}$
5. $\frac{x+3}{4}=\frac{7}{8}$
6. $\frac{x-6}{5}=\frac{7}{12}$
7. $\frac{8}{9}=\frac{x-2}{6}$
8. $\frac{1}{x+5}=\frac{2}{3}$
9. $\frac{8}{x+10}=\frac{4}{2x-7}$
10. $\frac{6}{x}=\frac{2}{5}$
11. $\frac{9}{4}=\frac{36}{z}$
12. $\frac{5}{3}=\frac{t+8}{18}$

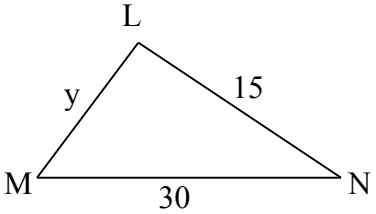
Do the following ratios form a proportion? Meaning, are they equal?

1. $\frac{2}{3}=\frac{16}{24}$
2. $\frac{9}{5}=\frac{10}{18}$
3. $\frac{7}{4}=\frac{21}{14}$
4. $\frac{8}{7}=\frac{24}{21}$

SIMILAR FIGURES:

Find the values of x and y if $\Delta JHI \sim \Delta MLN$.





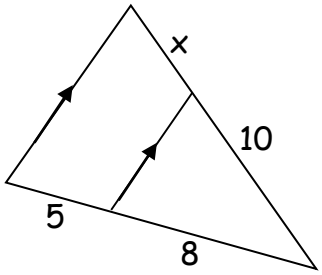
a) Write proportions for the corresponding sides.

b) Write the proportion to solve for x.

c) Write the proportion to solve for y.

Write and solve proportions to solve for each variable.

1.



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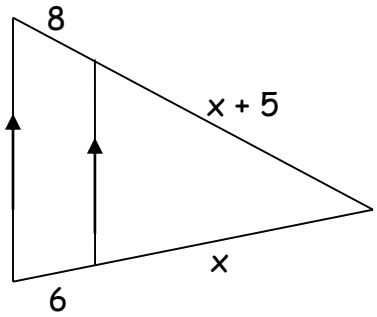

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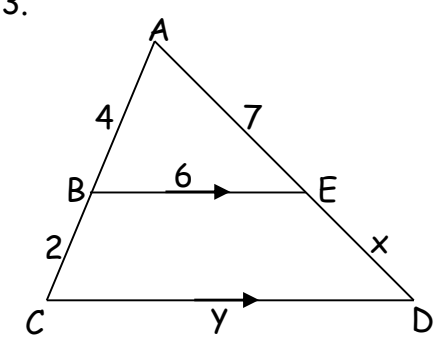

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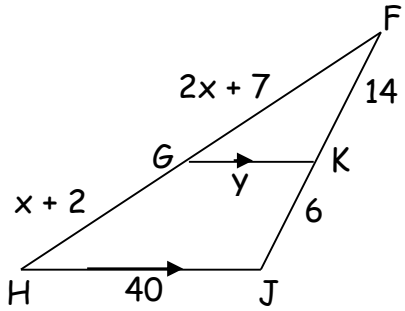

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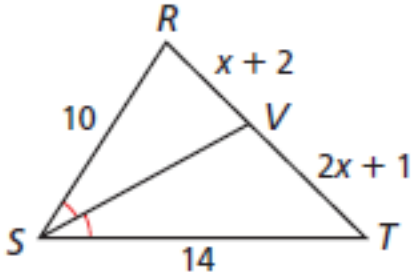

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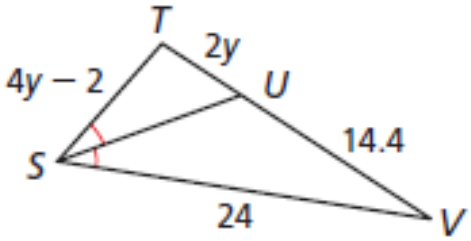

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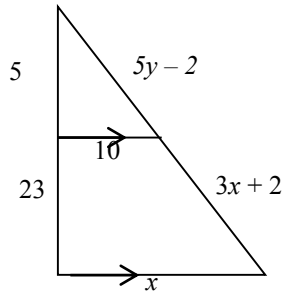

8.