We are going to have another classwork check!

Please have your packets and scorecards out on your desk.

1. $\Delta A'B'C'$ is a dilation of triangle ΔABC by a scale factor of ½. The dilation is centered at the point (5, 5). Which statement below is true?

A. $\frac{AB}{A'B'} = \frac{B'C'}{BC}$

B. $\frac{AB}{A'B'} = \frac{BC}{B'C'}$

C. $\frac{AB}{BC} = \frac{B'C'}{A'B'}$

D. $\frac{AB}{BC} = \frac{A'C'}{B'C'}$

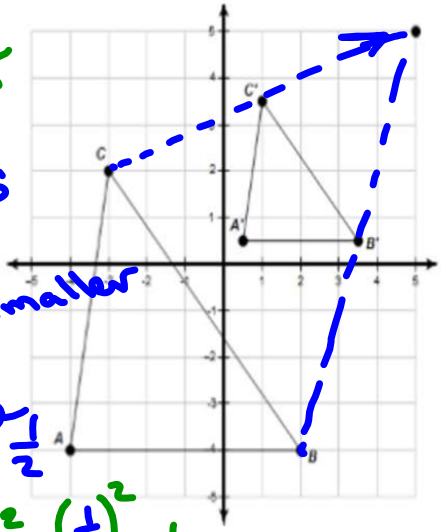
2. $\Delta A'B'C'$ is a dilation of triangle ΔABC by a scale factor of ½. The dilation is centered at the point (5, 5). What is the ratio of the area of $\Delta A'B'C'$ to the area of ΔABC?

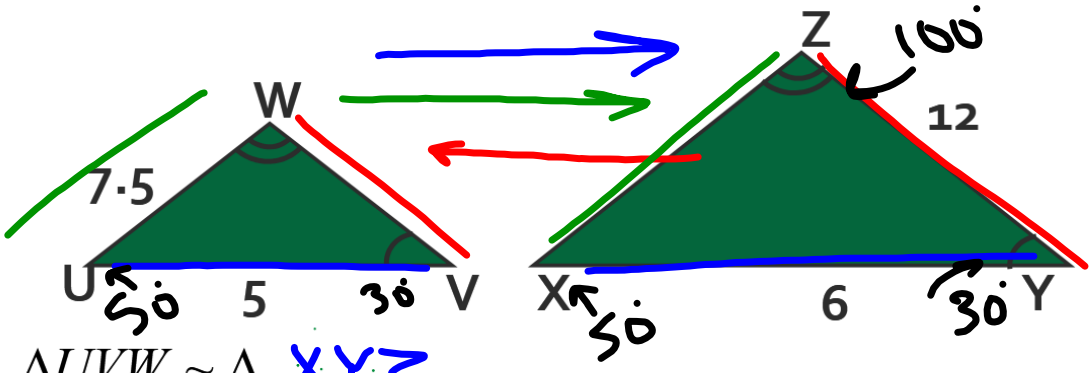
A. ½

B. 2

C. ¼

D. 4





1. $\Delta UVW \sim \Delta$ XYZ

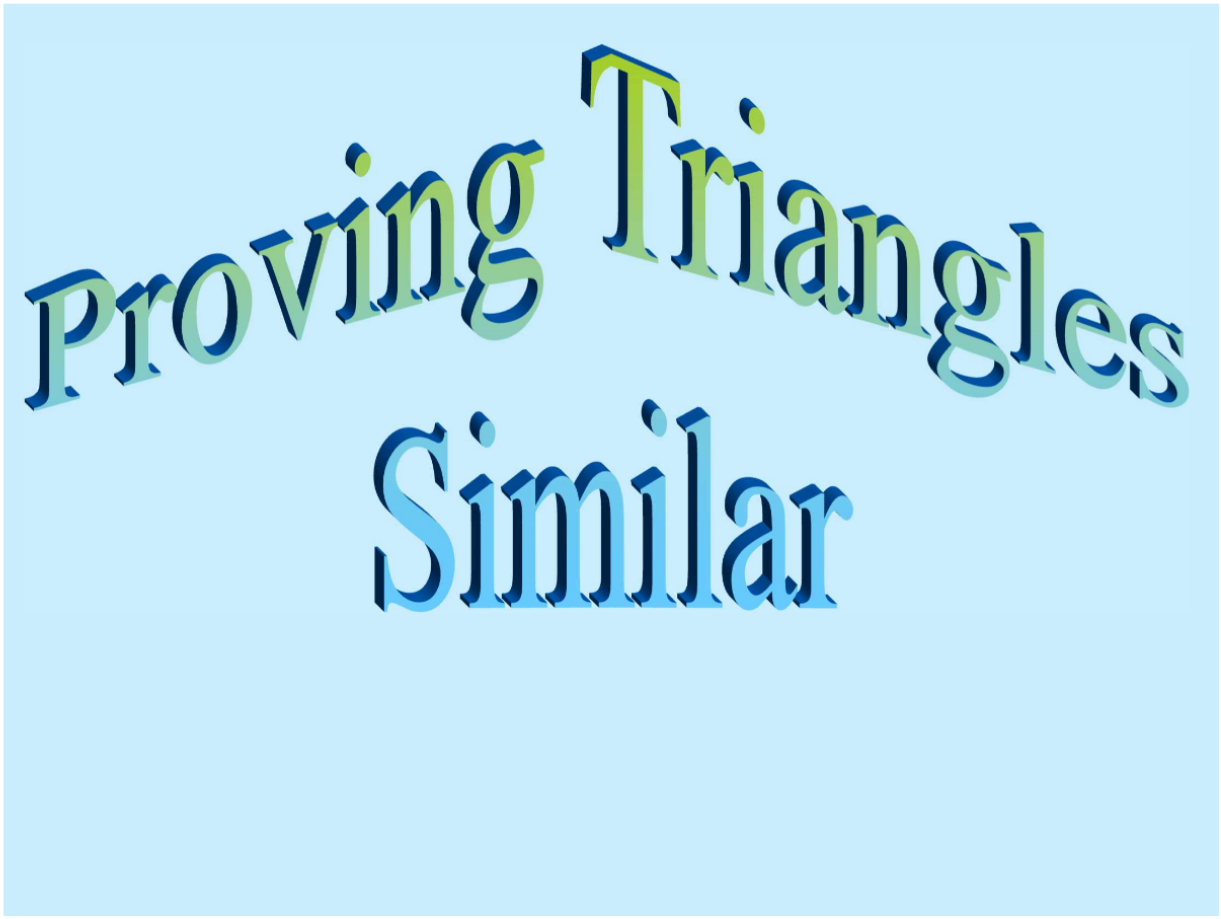
2. *What is the scale factor of* ΔUVW *to* ΔXYZ $\frac{6}{5}$

3. *What is* VW*?* $12\left(\frac{5}{6}\right) = 10$ 5:6

4. *What is* XZ*?* $7.5\left(\frac{6}{5}\right) = 9$

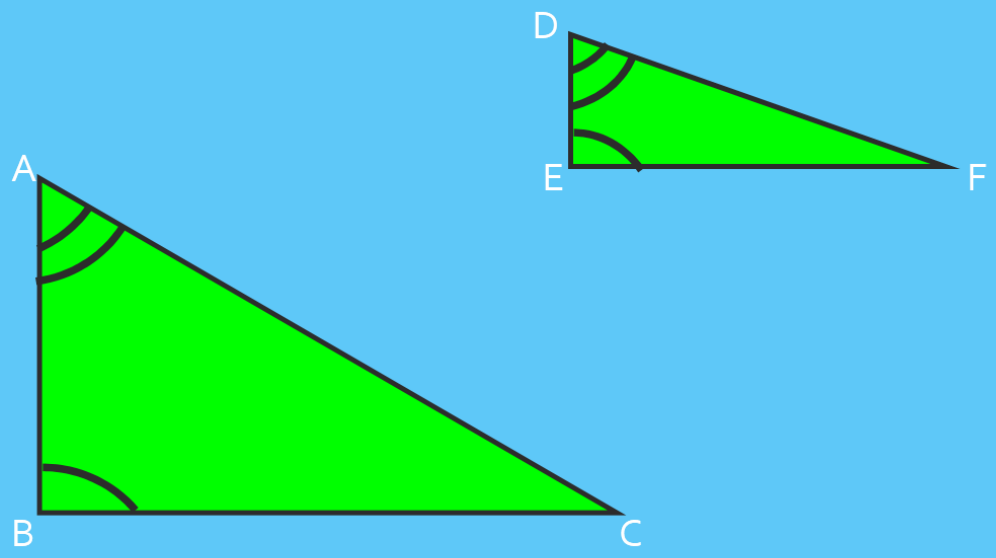
5. *If* $m\angle U = 50°$ *and* $m\angle Y = 30°$*, what is* $m\angle Z$*?*

100


Proving Triangles
Similar

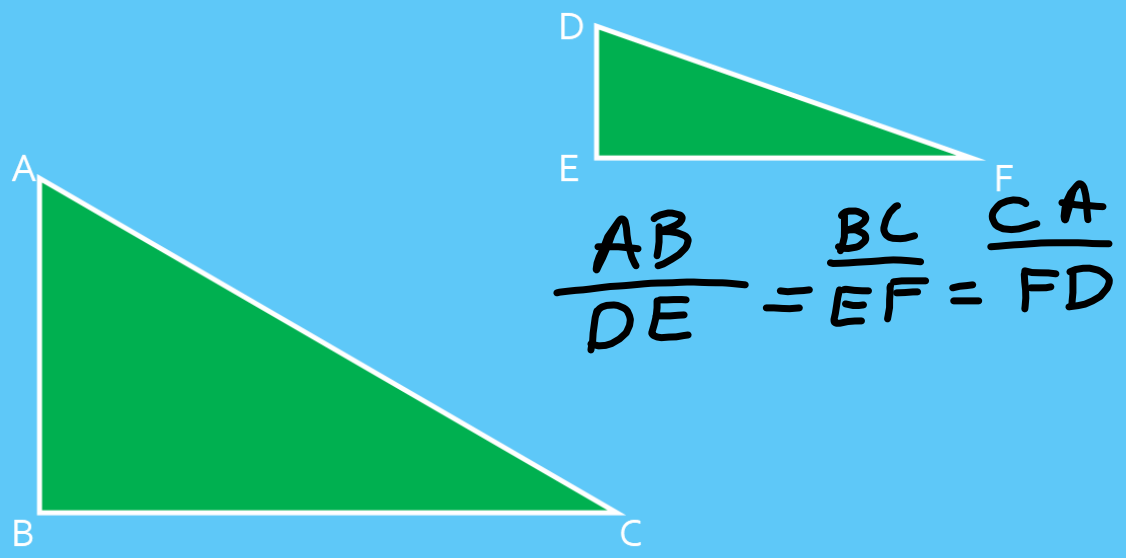
Angle-Angle (AA~) Similarity Postulate

If two angles of one triangle are congruent to two angles of another triangle, then the two triangles are similar.



Side-Side-Side (SSS~) Similarity THM

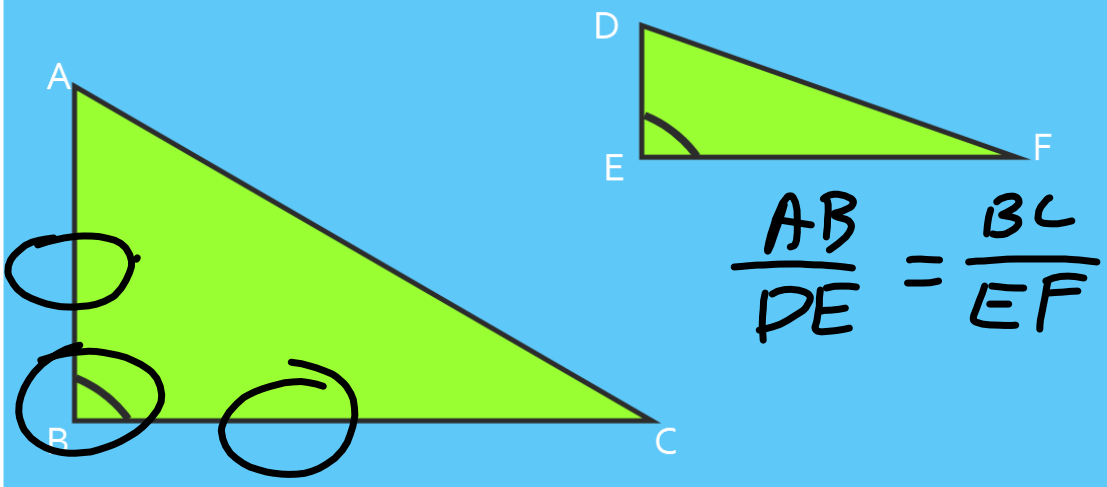
If the corresponding sides of two triangles are proportional, then the triangles are similar.



$$\frac{AB}{DE} = \frac{BC}{EF} = \frac{CA}{FD}$$

Side-Angle-Side (SAS~) Similarity THM

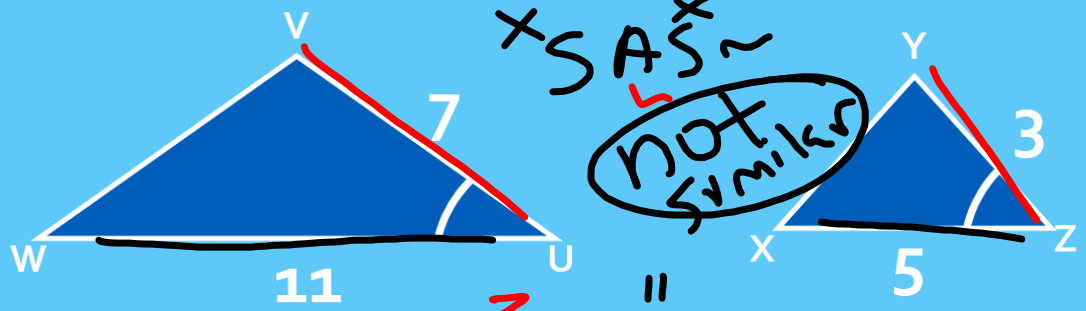
If the lengths of two sides are proportional and the included angle is congruent, then the triangles are similar



$$\frac{AB}{DE} = \frac{BC}{EF}$$

Ex. Determine whether the triangles are similar. If so, tell which similarity test is used and complete the statement.

Yessss! AA~



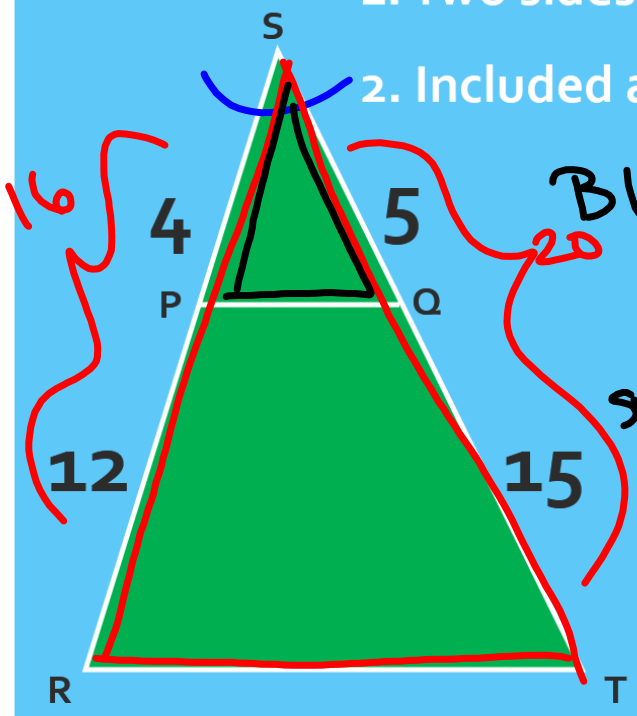
~~SAS~~ not similar

$\frac{7}{3} = \frac{11}{5}$

$2.33 \neq 2.2$

Prove that RST~ PSQ

1. Two sides are proportional.
2. Included angle is congruent



16 BIG 20

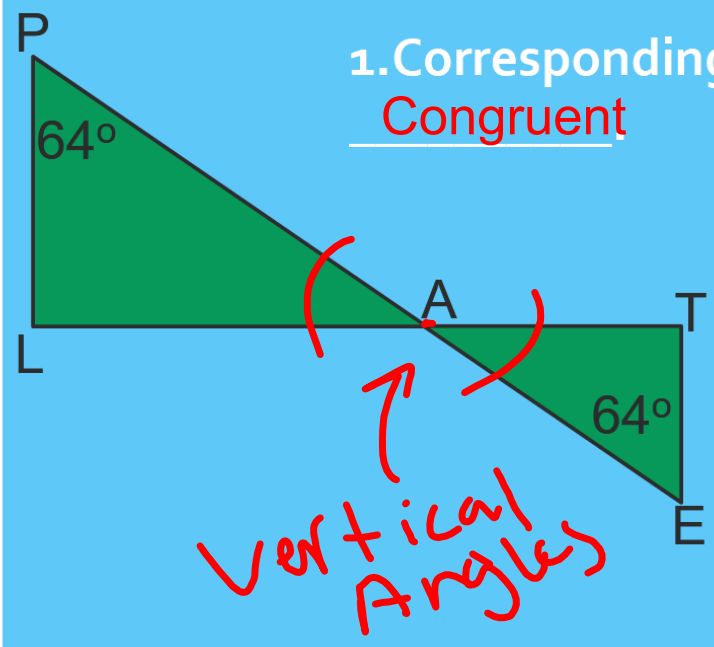
$\frac{16}{4} = \frac{20}{5}$

small

4 = 4

SAS ~

Prove that $\Delta PLA \sim \Delta EAT$



1. Corresponding angles are Congruent

Vertical Angles

AA~

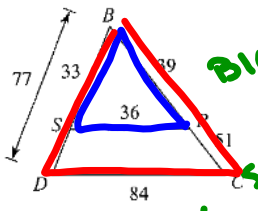
Analytic Geometry Name _____

Proving Triangles Similar

Date _____ Period ____

Decide if the triangles in each pair are similar. If so, state how you know they are similar by SSS~, SAS~, or AA~. Show all work.

1)



SSS~

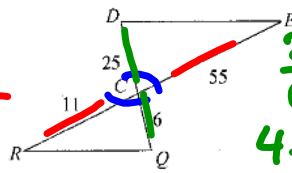
BIG

$\frac{84}{36} = \frac{90}{39} = \frac{77}{33}$

2.33 ≠ 2.30 ≠ 2.33

$\Delta BCD \sim$ nah, bruh

2)



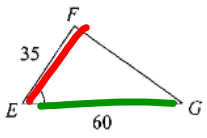
SAS~

$\frac{25}{6} = \frac{55}{11}$

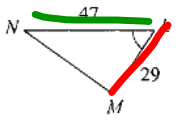
4.16 ≠ 5

$\Delta CDE \sim$ nah, bruh

3)



SAS~

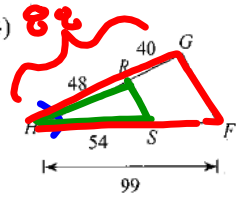


$\frac{35}{29} = \frac{60}{47}$

1.20 ≠ 1.27

$\Delta EFG \sim$ nope.

4)



BIG

SAS~

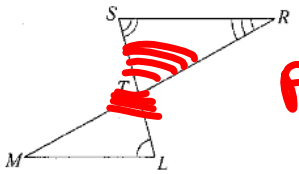
$\frac{88}{48} = \frac{99}{54}$

simply

1.83 = 1.83 ✓

$\Delta HGF \sim \Delta HRS$

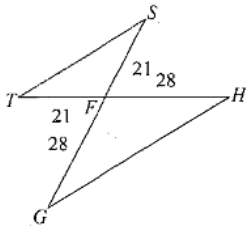
5)



AA~

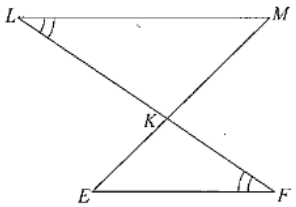
$\Delta TSR \sim$ nope.

6)



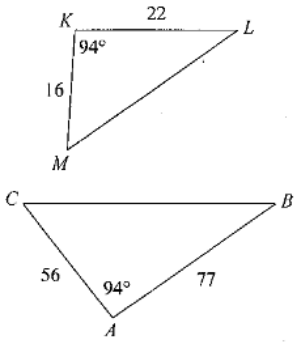
$\Delta FGH \sim$ _____

7)



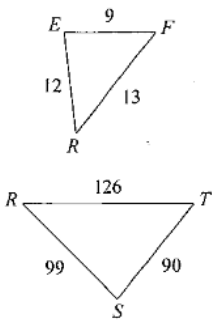
$\Delta KLM \sim$ _____

8)



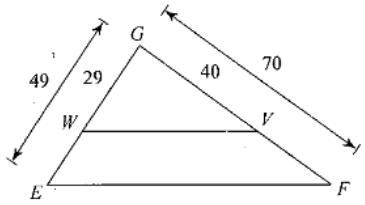
$\Delta ABC \sim$ _____

9)



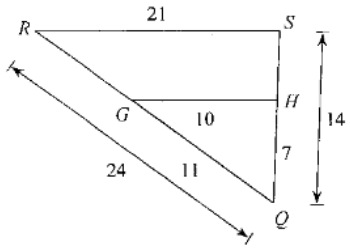
$\Delta RST \sim$ _____

10)



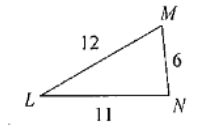
$\Delta GFE \sim$ _____

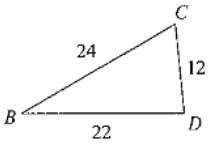
11)



$\Delta QRS \sim$ _____

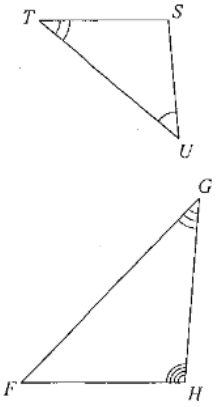
12)





$\Delta BCD \sim$ _____

13)



$\Delta FGH \sim$ _____

Geometry Name_____ ID: 1

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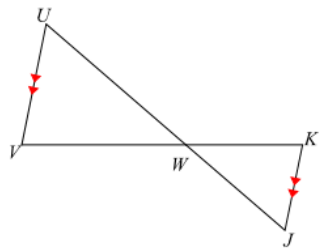
Proving Triangles Similar

Date_____ Period____

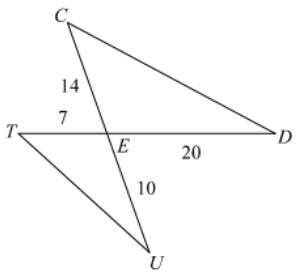
State if the triangles in each pair are similar. If so, state how you know they are similar and complete the similarity statement.

1)



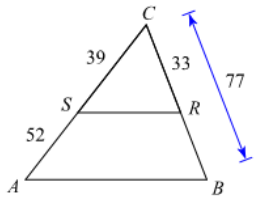
$\triangle WVU \sim$ _____

2)



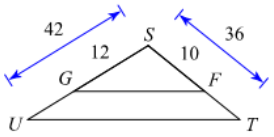
$\triangle EDC \sim$ _____

3)



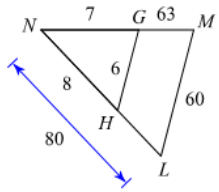
$\triangle CBA \sim$ _____

4)



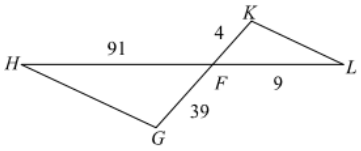
$\triangle STU \sim$ _____

5)



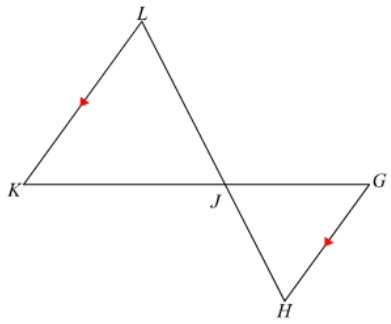
$\triangle NML \sim$ _____

6)



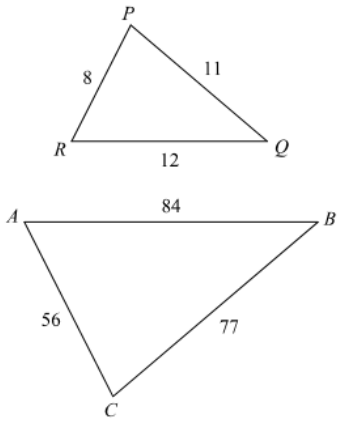
$\triangle FGH \sim$ _____

7)



$\triangle JKL \sim$ _____

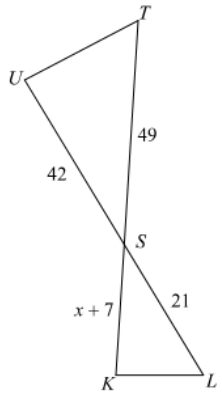
8)



$\triangle CBA \sim$ _____

Solve for *x*. The triangles in each pair are similar.

9)



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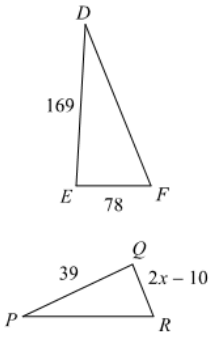

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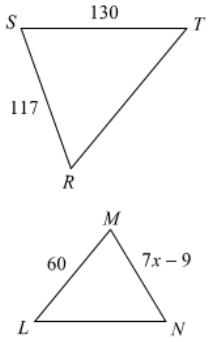
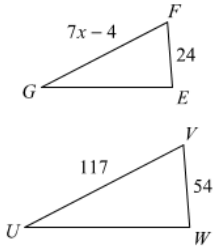
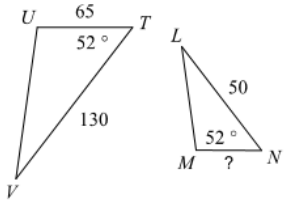


12)

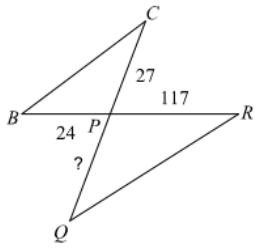


Find the missing length. The triangles in each pair are similar.

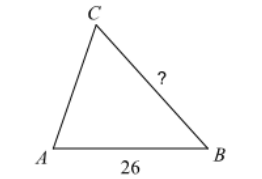
13)

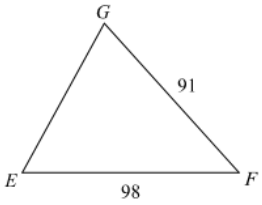


14)



15)





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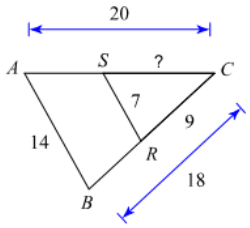

Answers to Proving Triangles Similar (ID: 1)

1) similar; AA similarity; $\triangle WKJ$
2) similar; SAS similarity; $\triangle EUT$
3) similar; SAS similarity; $\triangle CRS$
4) not similar
5) similar; SSS similarity; $\triangle NGH$
6) not similar
7) similar; AA similarity; $\triangle JGH$
8) similar; SSS similarity; $\triangle PQR$
9) 11
10) 14
11) 9
12) 8
13) 25
14) 104
15) 28
16) 10