11

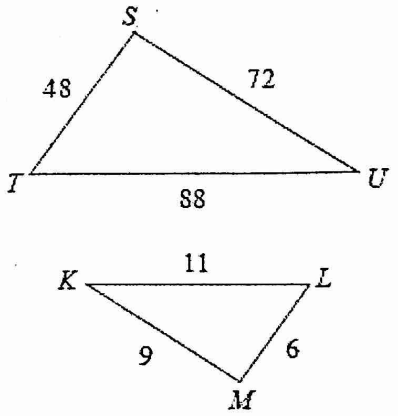
Group

Geometry
Formative Assessment: Similar Triangles 25 minutes

Name Answer Key
Date _____ Period ____

1. Determine if the two triangles are similar. If so, state the similarity statement and state how you know they are similar (SSS~, SAS~, AA~). Justify your conclusions.

(a)



i. Show work:

$\frac{48}{6} = \frac{72}{9} = \frac{88}{11}$

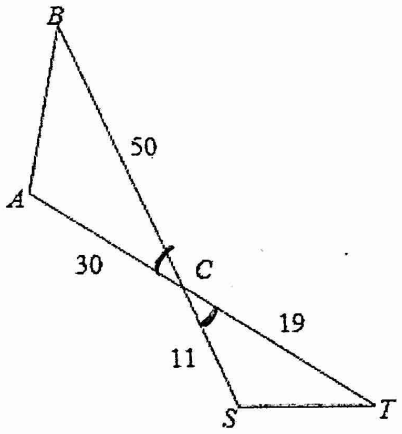
$8 \quad 8 \quad 8$

ii. Are the triangles similar? yes

iii. **If yes**, then how? SSS~

iv. **If yes**, then complete the similarity statement: $\Delta STU \sim \Delta$ MLK

(b)



i. Show work:

$\frac{30}{11} = \frac{50}{19}$

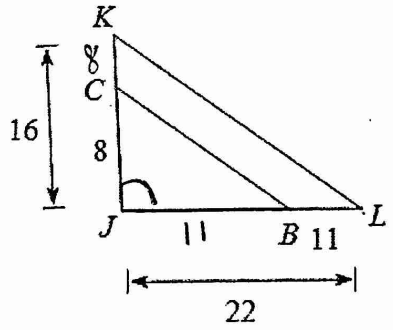
$2.72 \quad 2.63$

ii. Are the triangles similar? NO

iii. **If yes**, then how? _____

iv. **If yes**, then complete the similarity statement: $\Delta ABC \sim \Delta$ _____

(c)



ii. Are the triangles similar? yes

iii. **If yes**, then how? SAS~

iv. **If yes**, then complete the similarity statement: $\Delta BCJ \sim \Delta$ LKJ

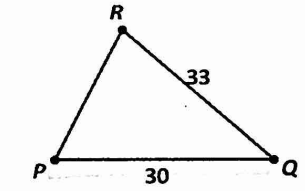
i. Show work:

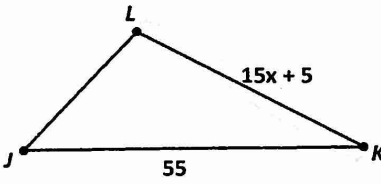
$\frac{8}{16} = \frac{11}{22}$ ✓

$J \cong J$

2. The triangles below are similar, solve for x. Work must be shown for full credit.

(a) $\Delta JKL \sim \Delta RQP$ x = 3





$\frac{15x+5}{30} = \frac{55}{33}$

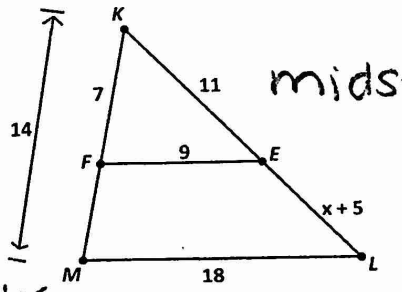
$1650 = 495x + 165$

$1485 = 495x$

$3 = x$

$\frac{50/10}{30/10} = \frac{55/11}{33/11}$ ✓

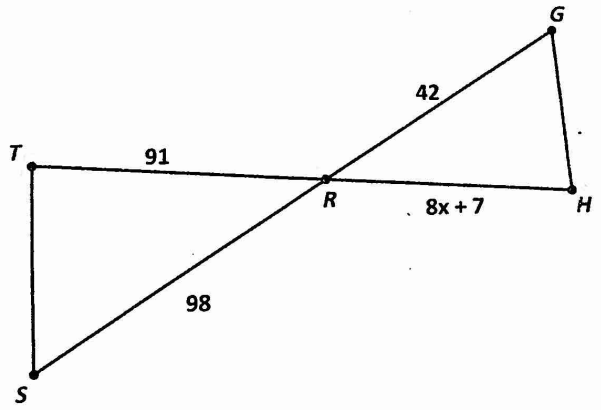
(b) $\Delta KFE \sim \Delta KML$ x = 6



midsegment

$x + 5 = 11$

(c) $\Delta RST \sim \Delta RGH$ x = 4



$\frac{8x+7}{91} = \frac{42/7}{98/7} = \frac{6}{14}$

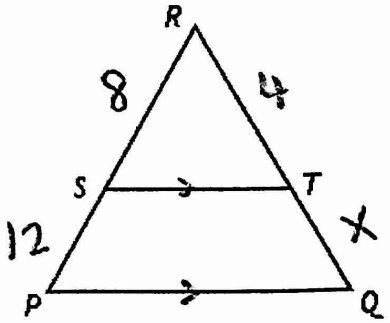
$\frac{8x+7}{91} = \frac{6}{14}$

$546 = 112x + 98$

$448 = 112x$

3. Given: $\overline{ST} \parallel \overline{PQ}$, $RS = 8$, $SP = 12$, and $RT = 4$. What is the measure of segment TQ?

Show your work to defend your answer:



$\frac{8}{12} = \frac{4}{x}$

$8x = 48$

$x = 6$

$\frac{8/4}{12/4} = \frac{2}{3}$

$\frac{4/2}{6/2} = \frac{2}{3}$ ✓

TQ = 6

Geometry
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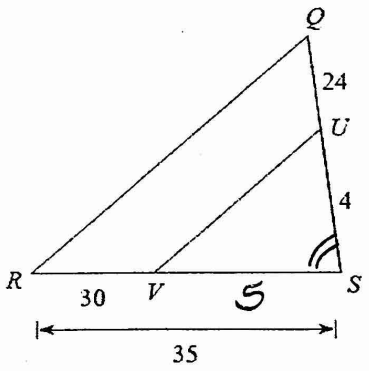
own portion
15minutes

Name _____
Date _____ Period _____

1. Determine if the two triangles are similar. If so, state the similarity statement and state how you know they are similar (SSS~, SAS~, AA~). Justify your conclusions. (10 points)

(a)



i. Show work:

$\frac{4}{28} = \frac{5}{35}$

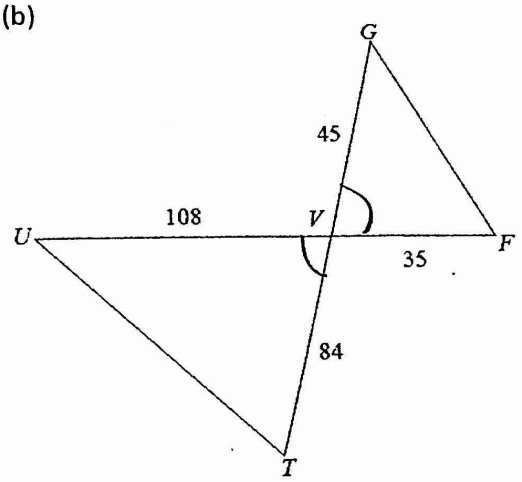
$\frac{1}{7}$

ii. Are the triangles similar? yes

iii. **If yes**, then how? SAS~

iv. **If yes**, then complete the similarity statement: $\Delta USV \sim$ QSR

(b)



i. Show work:

$\frac{35}{84} = \frac{45}{108}$

.417 .417

ii. Are the triangles similar? yes

iii. If yes, then how? SAS~

iv. **If yes**, then complete the similarity statement: ~~ΔVKL~~ _____

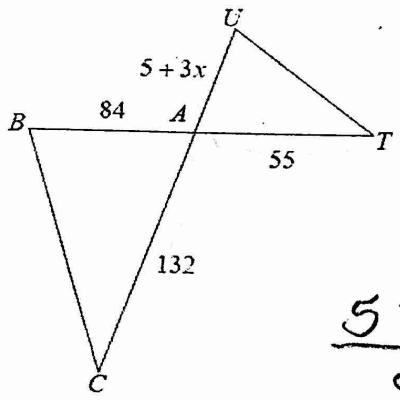
Fix:

ΔVTU ~ ΔVFG

10

2. The triangles below are similar, solve for x. Show work for full credit.

(a) $\triangle ABC \sim \triangle AUT$ x = 10

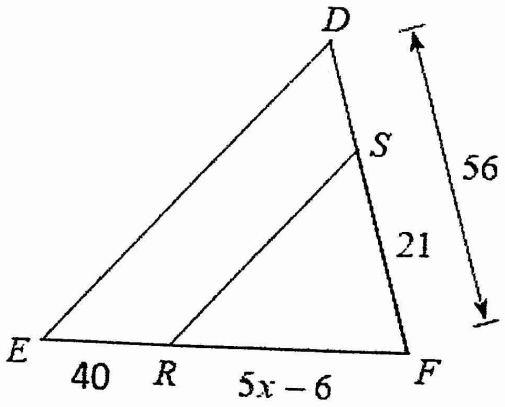


$$\frac{5+3x}{84} = \frac{55}{132}$$

$$660 + 396x = 4620$$

$$396x = 3960$$

(b) $\Delta EFD \sim \Delta RFS$ x = 10



$$\frac{5x-6}{5x+34} = \frac{21}{56}$$

$$280x - 336 = 105x + 714$$

$$175x = 1050$$

$$x = 6$$