CCSS Geometry

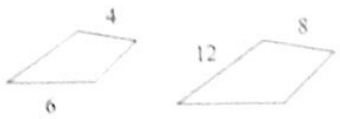
Name Key ID: 1

G3: Similarity Solving Warm-up

Date _____ Period ____

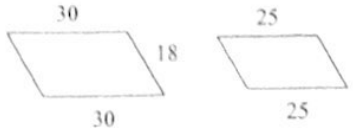
The polygons in each pair are similar. Find the scale factor of the smaller to the larger figure.

1)



$\frac{8}{4} = 2 = \text{scale factor}$

2)



$\frac{30}{25} = 1.2 = \text{scale factor}$

The polygons in each pair are similar. Find the missing side length.

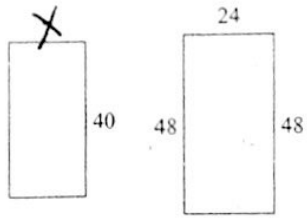
3)

$\frac{18}{x} = \frac{15}{35}$

$15x = 630$

$x = 42$

4)



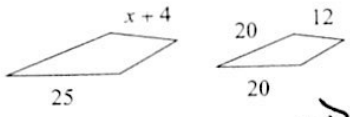
$\frac{x}{40} = \frac{24}{48}$

$48x = 960$

$x = 20$

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

5)



$\frac{x+4}{25} = \frac{12}{20}$

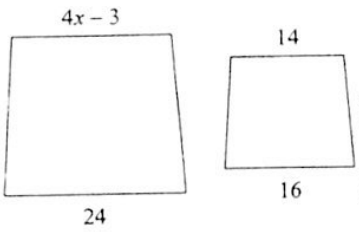
$20(x+4) = 12 \cdot 25$

$20x + 80 = 300$

$20x = 220$

$x = 11$

6)



$\frac{4x-3}{24} = \frac{14}{16}$

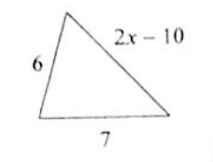
$16(4x-3) = 14(24)$

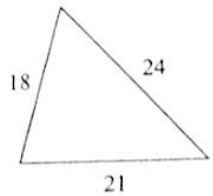
$64x - 48 = 336$

$64x = 384$

$x = 6$

7)





$\frac{2x-10}{7} = \frac{24}{21}$

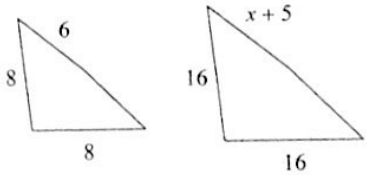
$21(2x-10) = 7(24)$

$42x - 210 = 168$

$42x = 378$

$x = 9$

8)



$\frac{x+5}{16} = \frac{16}{8}$

$8(x+5) = 16(16)$

$8x + 40 = 96$

$8x = 56$

$x = 7$

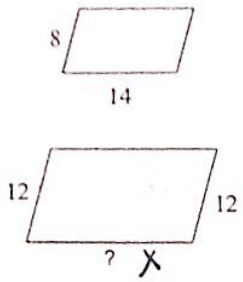
CCSS Geometry Name_____ ID: 1

G3: Similarity Extra Practice

Date_____ Period____

The polygons in each pair are similar. Find the missing side length.

1)

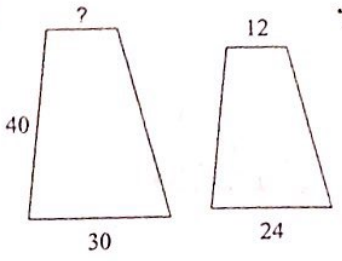


$\frac{8}{14} = \frac{12}{x}$

$8x = 168$

$x = 21$

2)



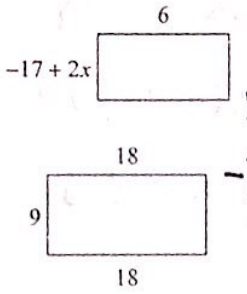
$\frac{x}{30} = \frac{12}{24}$

$24x = 360$

$x = 15$

Solve for x. The polygons in each pair are similar.

3)



$\frac{6}{-17+2x} = \frac{18}{9}$

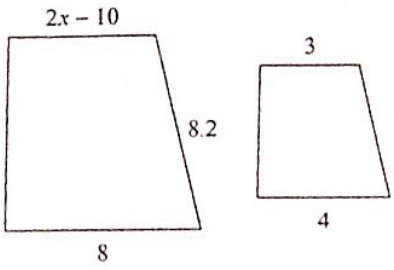
$18(-17+2x) = 6(9)$

$-306 + 36x = 54$

$36x = 360$

$x = 10$

4)



$\frac{2x-10}{8} = \frac{3}{4}$

$4(2x-10) = 3(8)$

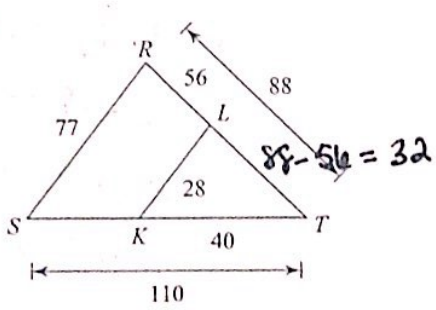
$8x - 40 = 24$

$8x = 64$

$x = 8$

C Level: State if the triangles in each pair are similar. If so, state how you know they are similar and complete the similarity statement.
B Level: Make a flowchart to prove the triangles are similar.

5)



$88 - 56 = 32$

$\triangle TSR \sim$ _____

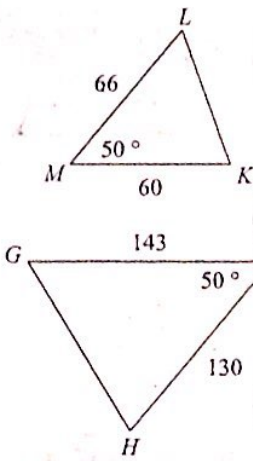
$\frac{88}{32} = 2.75$ (Given Ratio)

$\frac{110}{40} = 2.75$ (Given Ratio)

$\frac{77}{28} = 2.75$ (Given Ratio)

$\triangle TSR \sim \triangle TKL$ (SSS~)

6)



$\frac{143}{66} = 2.1\overline{6}$ (Given Ratio)

$\angle M \cong \angle F$ (Given)

$\frac{130}{60} = 2.1\overline{6}$ (Given Ratio)

$\triangle FGH \sim \triangle MLK$ (SAS~)

$\triangle FGH \sim$ _____