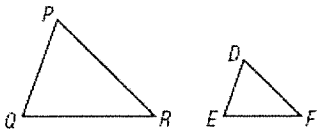
Geometry Worksheet Similarity Name Key
Hour: ____

1- Given the similar figures, name all pairs of corresponding sides and angles. Look at the similarity statement to help.

2. $\Delta PQR \sim \Delta DEF$

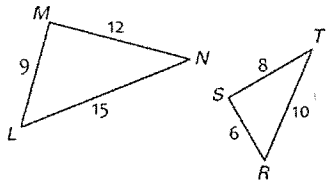


$\overline{QP} \overset{\sim}{\rightarrow} \overline{ED}$ $\quad \angle Q \cong \angle E$

$\overline{PR} \rightarrow \overline{DF}$ $\quad \angle P \cong \angle D$

$\overline{RQ} \rightarrow \overline{FE}$ $\quad \angle R \cong \angle F$

3. $\Delta LMN \sim \Delta RST$

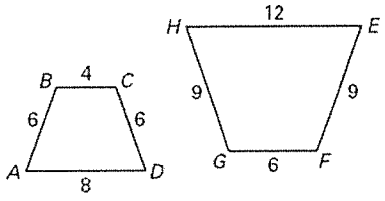


$\overline{LM} \rightarrow \overline{RS}$ $\quad \angle L \cong \angle R$

$\overline{MN} \rightarrow \overline{ST}$ $\quad \angle M \cong \angle S$

$\overline{NL} \rightarrow \overline{TR}$ $\quad \angle N \cong \angle T$

4. $ABCD \sim HGFE$ Follow



$\overline{AB} \rightarrow \overline{HG}$ $\quad \angle A \cong \angle H$

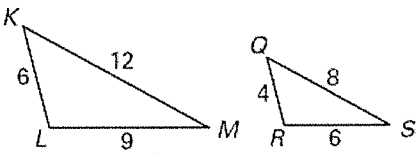
$\overline{BC} \rightarrow \overline{GF}$ $\quad \angle B \cong \angle G$

$\overline{CD} \rightarrow \overline{FE}$ $\quad \angle C \cong \angle F$

$\overline{DA} \rightarrow \overline{EA}$ $\quad \angle D \cong \angle E$

Complete the similarity statement for the similar figures and then find the scale factor. REDUCE fractions!

5.

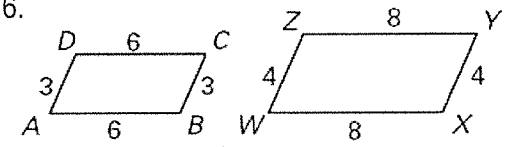


pre-image Image

$\Delta LKM \sim \Delta$ RQS

Scale Factor: $\frac{\text{Image}}{\text{pre-image}} = \frac{6}{9} = \frac{2}{3}$

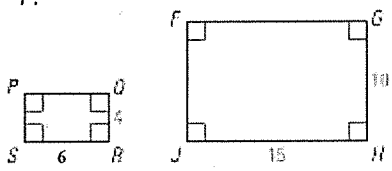
6.



$CBAD \sim$ YXWZ

Scale Factor: $\frac{\text{Image}}{\text{pre-image}} = \frac{8}{6} = \frac{4}{3}$

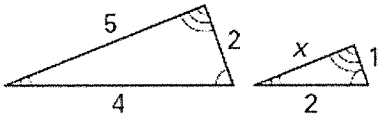
7.



$RSPQ \sim$ HJFG

Scale Factor: $\frac{10}{4} = \frac{5}{2}$

The two polygons are similar. Write a proportion and solve for x.



1- What part of the figure are you solving for?

Side x

2- Which property of similar figures are you using?

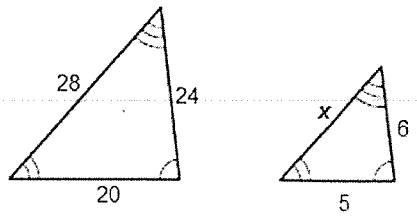
Corresponding sides are proportional

3- Set Up Equations/Proportions (may vary)

$\frac{x}{5} = \frac{1}{2}$

4- Solve

$2x = 5$ $\quad x = \frac{5}{2} = 2.5$



1- What part of the figure are you solving for?

Side X

2- Which property of similar figures are you using?

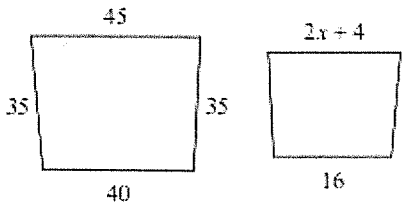
Corresponding sides are proportional.

3- Set Up Equation/Proportion (May vary)

$\frac{x}{28} = \frac{6}{24}$

4- Solve

$\frac{24x}{24} = \frac{168}{24}$ $x = 7$



1- What part of the figure are you solving for?

X

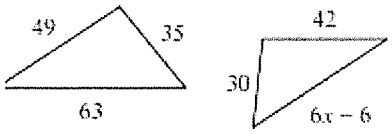
2- Which property of similar figures are you using?

Corresponding sides are proportional

3- Set Up Equation/Proportion

$\frac{2x+4}{45} = \frac{16}{40}$

4- Solve $80x + 160 = 720$ $\frac{80x}{80} = \frac{560}{80}$ $x = 7$



5- What part of the figure are you solving for?

X

6- Which property of similar figures are you using?

Corresponding sides are proportional

7- Set Up Equation/Proportion (May vary)

$$\frac{6x-6}{63} = \frac{42}{49}$$

8- Solve

$$294x - 294 = 2646$$

$$\frac{294x}{294} = \frac{2940}{294}$$

$x = 10$