

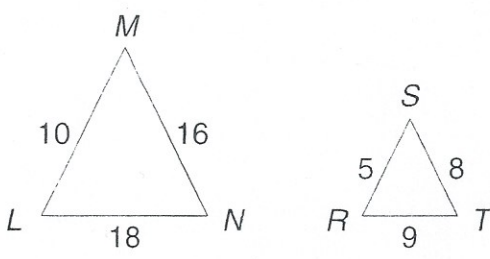
LESSON
5-5 **Interactive Study Guide**
Similar Figures and Proportions

Similar figures have the same shape but are different sizes. Their **corresponding sides** are in proportion and their **corresponding angles** are equal.

Vocabulary
corresponding angles
corresponding sides
similar

Determine Whether Two Triangles Are Similar
Identify the corresponding sides and use ratios to determine whether the triangles are similar.

\overline{LM} corresponds to _____.
_____ corresponds to \overline{ST} .
 \overline{LN} corresponds to _____.



$\frac{\overline{RS}}{\overline{RS}} = \frac{\overline{MN}}{\overline{MN}} = \frac{\overline{RT}}{\overline{RT}}$ Use the above sentences to write possible proportions.

$\frac{10}{\quad} = \frac{8}{\quad} = \frac{18}{\quad}$ Substitute values for the side lengths.

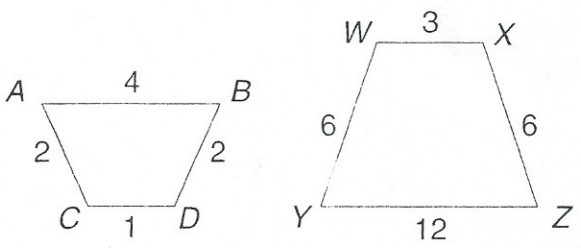
$10 \cdot 8 = 16 \cdot 5$ What is the cross product for $\frac{10}{5} = \frac{16}{8}$? _____ = _____

$16 \cdot 9 = 8 \cdot 18$ What is the cross product for $\frac{16}{8} = \frac{18}{9}$? _____ = _____

The triangles are _____ because the _____ are equal.

Determine Whether Two Four-Sided Figures Are Similar

The corresponding angles of the figures at right have equal measure. Write each set of corresponding sides as a ratio.



$\frac{AB}{YZ}$ _____ corresponds to _____.

$\frac{CD}{WX}$ _____ corresponds to _____.

$\frac{AC}{YW}$ _____ corresponds to _____.

$\frac{BD}{ZX}$ _____ corresponds to _____.

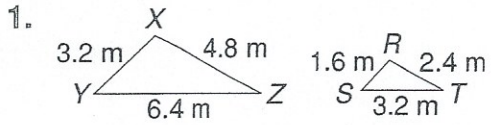
$\frac{AB}{YZ} = \frac{AC}{YW} =$ _____ Set the ratios equal to each other.

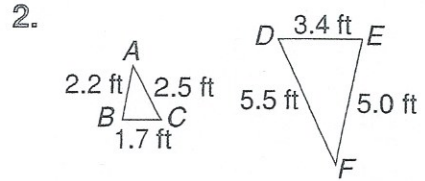
$= \frac{1}{3} = \frac{2}{6}$ Substitute.

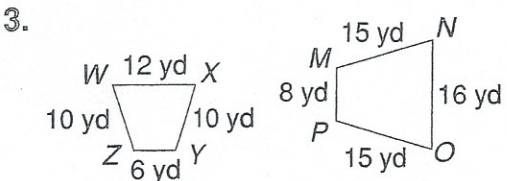
$\frac{1}{3} = \frac{1}{3} = \frac{1}{3} = \frac{1}{3}$ Simplify. The figures are _____.

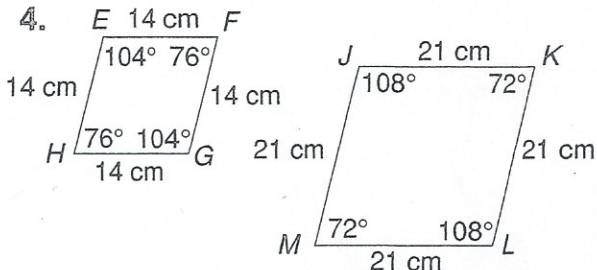
LESSON **Practice C**
5-5 *Similar Figures and Proportions*

Use the properties of similarity to determine whether the figures are similar.

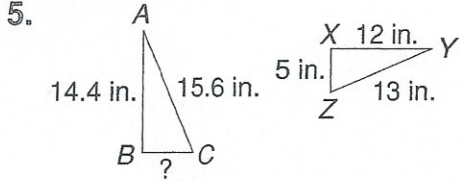


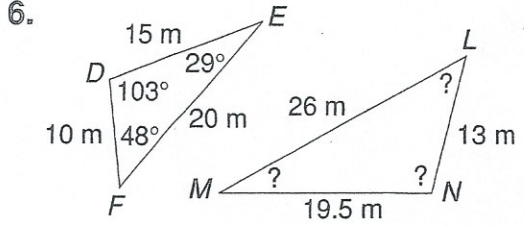


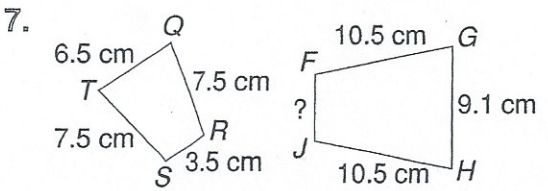


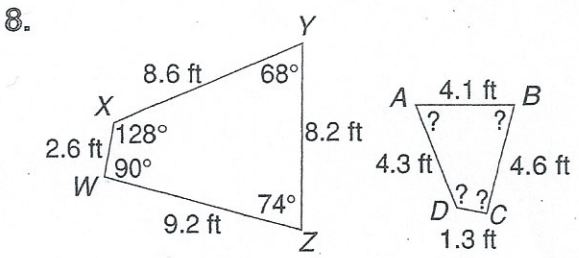


The figures in each pair are similar. Find the missing lengths or angle measures.



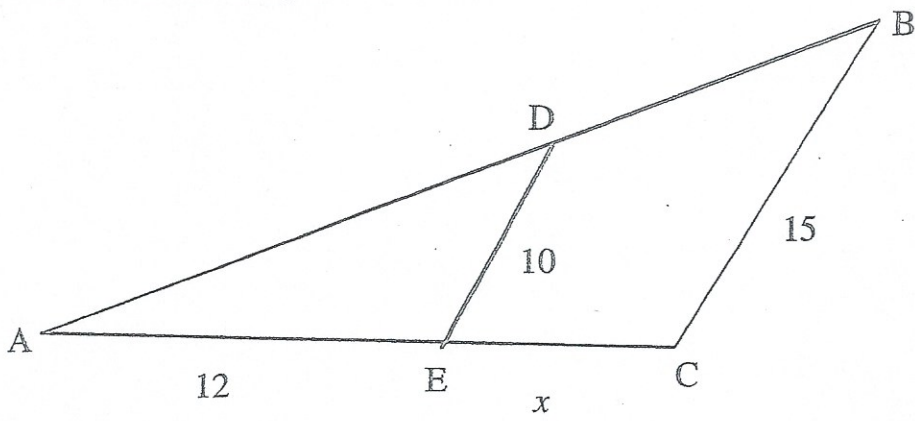




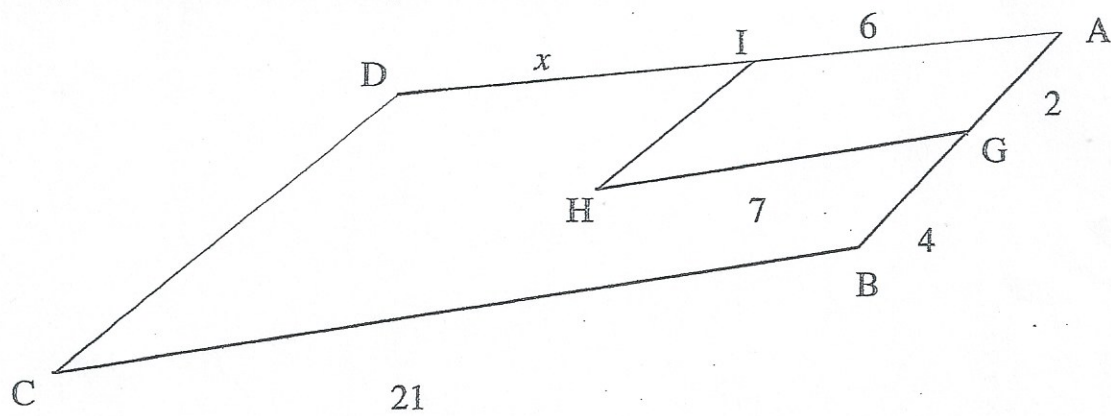


Similar Figures Name _____ Date _____

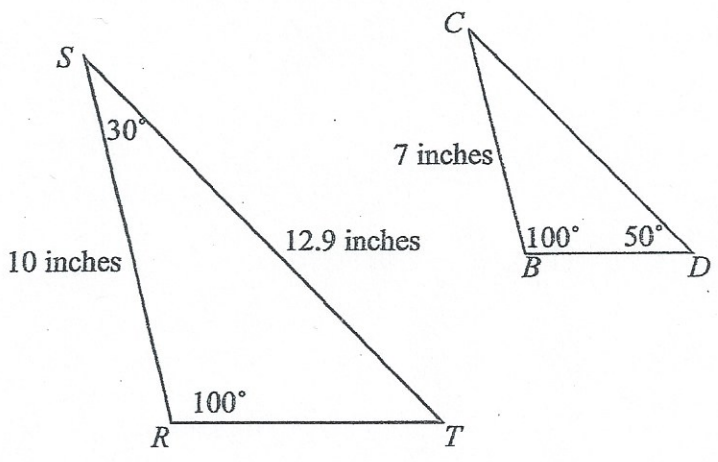
5. Figure ABC is similar to figure ADE. Find x .



6. Figure ABCD is similar to figure AGHI. Find x .



C. Compare the two similar triangles below.



What is the measure of segment CD ? $\angle T$? $\angle C$?

Assignment

Date _____ Period _____

Each pair of figures is similar. Find the missing side.

