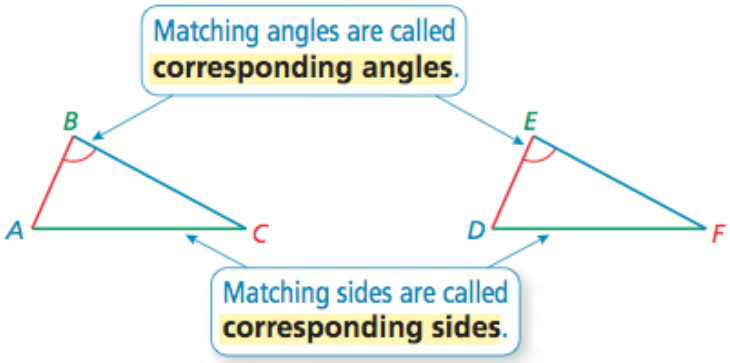
2.1 CONGRUENT FIGURES

Math 8

Name: _____ Date: _____

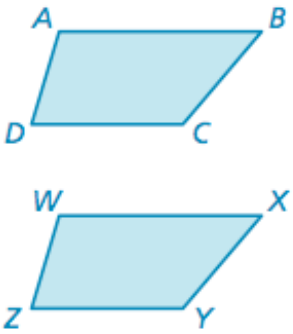
Congruent figures have the same

_____ and _____.



EXAMPLE 1: Naming Corresponding Parts

The figures are congruent. Name the corresponding angles **and** the corresponding sides.



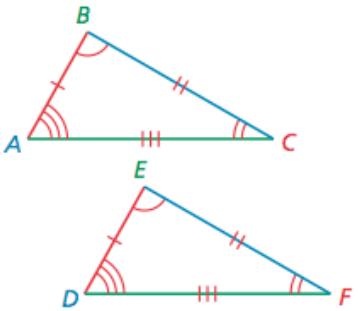
Key Idea

Identifying Congruent Figures

Two figures are congruent when corresponding angles and corresponding sides are congruent.

Triangle *ABC* is congruent to Triangle *DEF*.

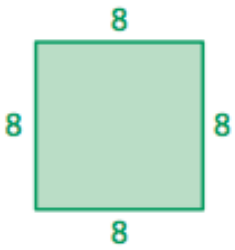
$\triangle ABC \cong \triangle DEF$



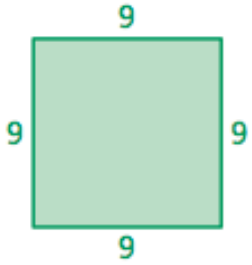
EXAMPLE 2: Identifying Congruent Figures

Which square is congruent to Square A?

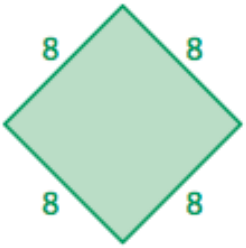
Square A



Square B



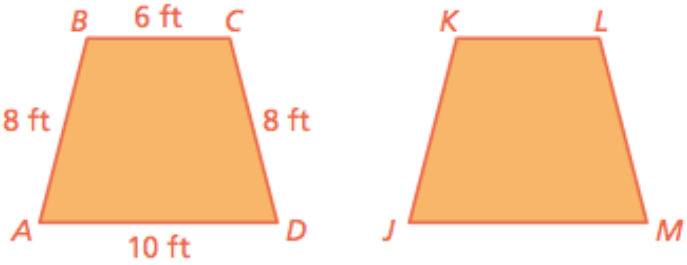
Square C



EXAMPLE 3: Using Congruent Figures

Trapezoids ABCD and JKLM are congruent.

a) What is the length of JM?



b) What is the perimeter of JKLM?

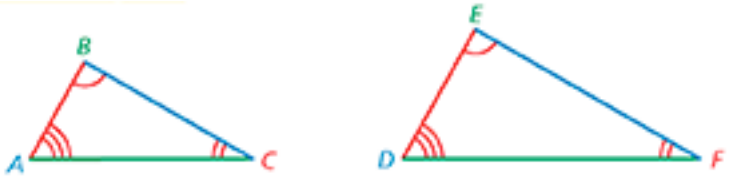
2.5 SIMILAR FIGURES

Math 8

Name: _____ Date: _____

Figures that have the same shape but not necessarily the same size are called _____.

When two figures are similar, corresponding side lengths are _____ and corresponding angles are _____.



Triangle *ABC* is similar to Triangle *DEF*.

Words Two figures are similar when

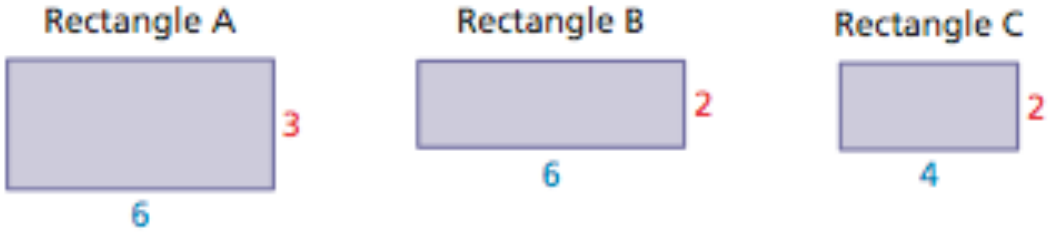
- corresponding side lengths are proportional and
- corresponding angles are congruent.

Symbols

Side Lengths	*Angles*	*Figures*
$\frac{AB}{DE} = \frac{BC}{EF} = \frac{AC}{DF}$	$\angle A \cong \angle D$ $\angle B \cong \angle E$ $\angle C \cong \angle F$	$\triangle ABC \sim \triangle DEF$

EXAMPLE 1: Identifying Similar Figures

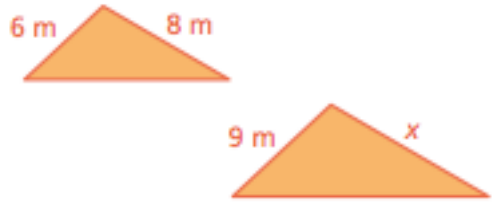
Which two rectangles are similar?



EXAMPLE 2: Finding an Unknown Measure in Similar Figures

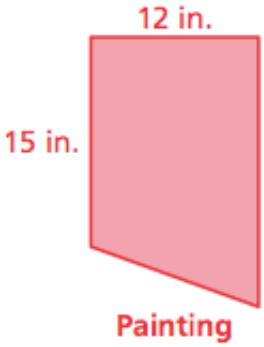
The shapes are similar. Find x.

a.



EXAMPLE 3: Real-Life Application

An artist draws a replica of a painting that is on the Berlin Wall. The painting includes a red trapezoid. The shorter base of the similar trapezoid in the replica is 3.75 inches. What is the height, h, of the trapezoid in the replica?



Painting

Replica