NAME _____ DATE _____ PERIOD ____

13-6 Study Guide and Intervention

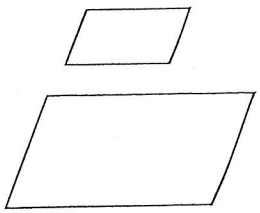
Similar and Congruent Figures

Figures that have the same size and shape are **congruent figures**.

Figures that have the same shape but not necessarily the same size are **similar figures**.

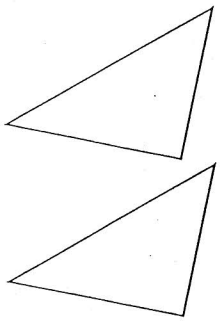
EXAMPLES **Tell whether each pair of figures is *similar*, *congruent*, or *neither*.**

1



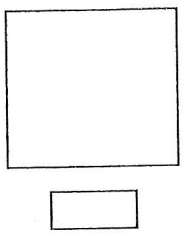
The parallelograms have the same shape but not the same size, so they are similar.

2



The triangles have the same shape and size, so they are congruent.

3

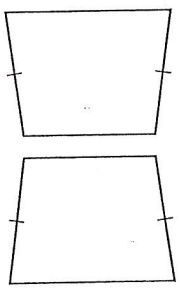


The rectangles are neither the same size nor the same shape, so they are neither congruent nor similar.

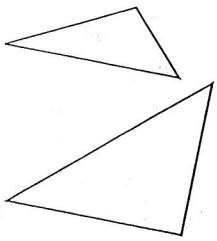
EXERCISES

Tell whether each pair of figures is *congruent*, *similar*, or *neither*.

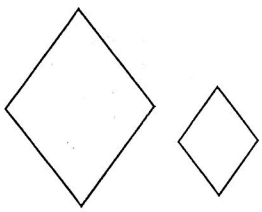
1.



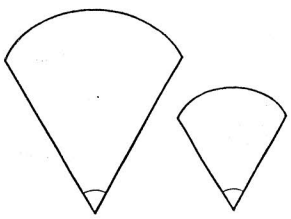
2.



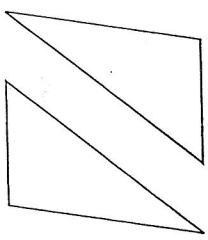
3.



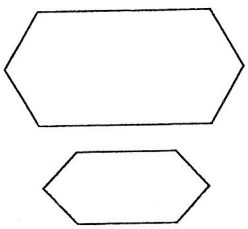
4.



5.



6.

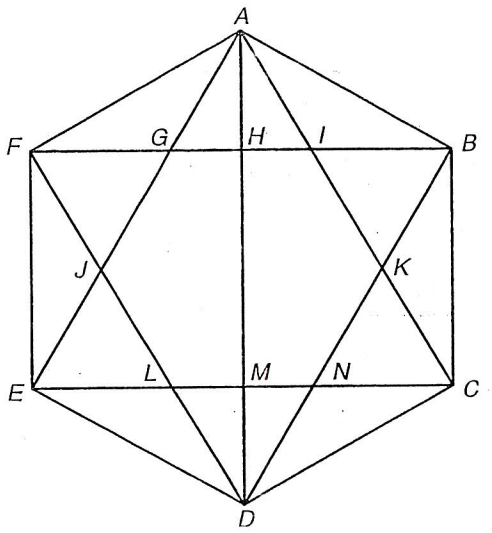


NAME _____ DATE _____ PERIOD ____

13-6 Practice: Word Problems

Similar and Congruent Figures

TILING For Exercises 1–6, use the following information. Amy is using the design at the right to tile a hexagon-shaped floor. Before deciding which colors to use, she wants to identify all similar and congruent shapes.



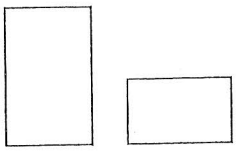
1. Suppose Amy cut a red tile the size of $\triangle ACE$. What other triangle in the design would that tile fit? In other words, what triangle is congruent to $\triangle ACE$?	**2.** Amy is looking for congruent quadrilaterals that are neither squares nor rectangles. Can you identify them?
3. Find a triangle that is similar to but not congruent to $\triangle BCK$.	**4.** Amy's friend suggested that she cut four congruent white triangular tiles and place them in the design so that they are not overlapping and do not share common sides. Is that possible? If so, name the four triangles.
5. Can you help Amy find a shape that is either similar or congruent to *AKDJ*?	**6.** Is the hexagon *GIKNLJ* similar to *ABCDEF*? How do you know?

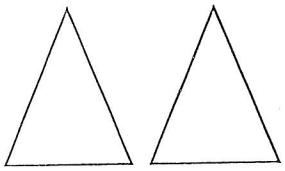
NAME _____ DATE _____ PERIOD ____

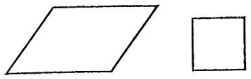
13-6 Practice: Skills

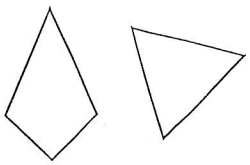
Similar and Congruent Figures

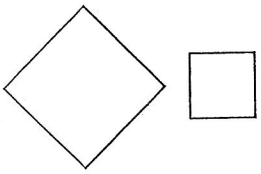
Tell whether each pair of figures is *similar*, *congruent*, or *neither*.

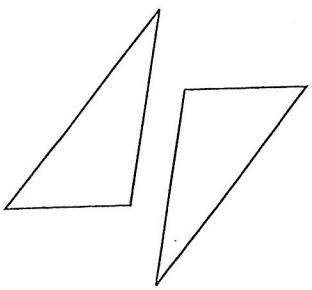
1. 

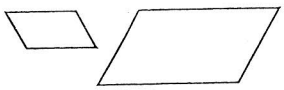
2. 

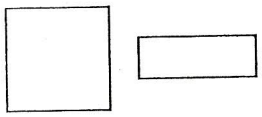
3. 

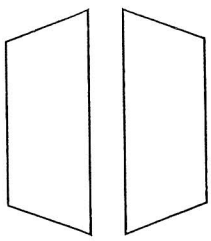
4. 

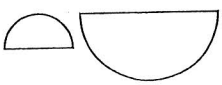
5. 

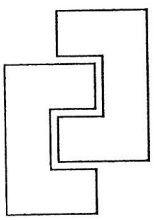
6. 

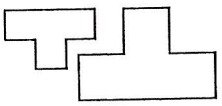
7. 

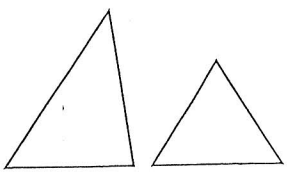
8. 

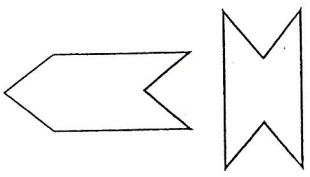
9. 

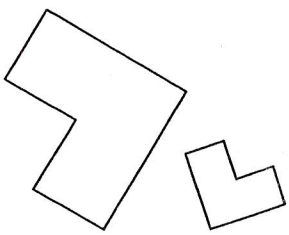
10. 

11. 

12. 

13. 

14. 

15. 

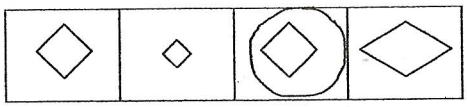
Lesson 13-6

Name _____ Date _____

Introduction: Recognizing Similar and Congruent Figures

Intermediate Skills

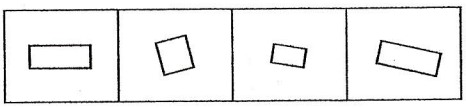
Congruent figures have the same shape and size. Circle the figure that is congruent to the first figure in the series.

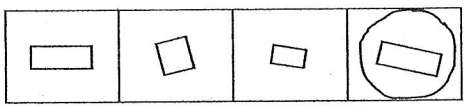


The **third** figure has the same shape and size as the first figure.

Intermediate Skills Practice

Circle the figure that is congruent to the first figure in the series.

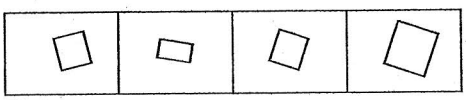




The **fourth** figure has the same shape and size as the first figure.

Practice Problems

A. Circle the figure that is congruent to the first figure.



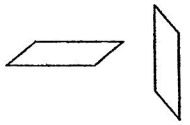
Name _____ Date _____

Independent Practice 1: Recognizing Similar and Congruent Figures

1. The two figures are

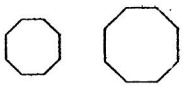
___ congruent
___ similar

2. The two figures are



___ congruent
___ similar

3. The two figures are

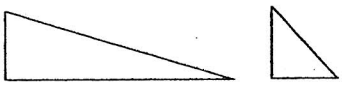


___ not similar
___ not congruent

4. The two figures are

___ not similar
___ not congruent

5. The two figures are

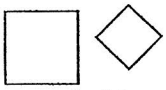


___ similar and congruent
___ not similar and not congruent

6. The two figures are

___ similar and congruent
___ not similar and not congruent

7. The two figures are

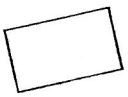
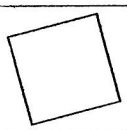
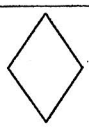
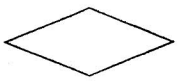
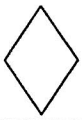
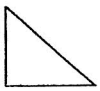
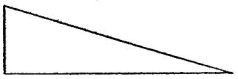
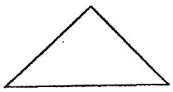
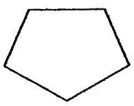
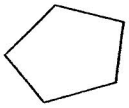
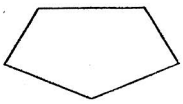


___ similar and congruent
___ similar and not congruent

8. The two figures are

___ similar and congruent
___ similar and not congruent

In each row, circle the figure that is congruent to the first figure.

9. 			
10. 			
11. 			
12. 			

Name _____ Date _____ Class _____

LESSON 8-9

Problem Solving

Congruence

Write the correct answer.

1. Similar figures have the same shape but may have different sizes. How are similar figures different from congruent figures?

_____

_____

2. Pentagon A and Pentagon B are congruent regular polygons. If the total length of the sides of Pentagon B is 68.5 feet, what is the length of each side of Pentagon A?

_____

3. Is the following statement always true, sometimes true, or never true? Two congruent figures are similar figures. Explain.

_____

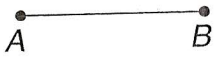
_____

_____

_____

_____

4. Draw a figure congruent to this line segment. Explain how you drew your congruent figure.



_____

_____

Circle the letter of the correct answer.

5. Which word makes this statement true? Corresponding parts of congruent figures are _____.

A not regular
B congruent
C polygons
D horizontal

6. If two angles of a right triangle are congruent, what are the measures of each angle in the triangle?

F 35°, 55°, and 90°
G 45°, 45°, and 90°
H 50°, 50°, and 90°
J 55°, 55°, and 90°

7. Which of the following polygons do not always have all congruent sides?

A a square
B an equilateral triangle
C a rhombus
D a pentagon

8. If $\angle A$ of rectangle $ABCD$ is congruent to $\angle X$ of triangle XYZ, which of these statements is true?

F Rectangle $ABCD$ is also a square.
G Triangle XYZ is a right triangle.
H Rectangle $ABCD$ is a regular polygon.
J Triangle XYZ is an acute triangle.

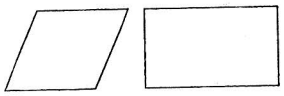
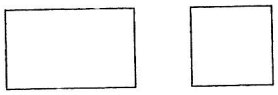
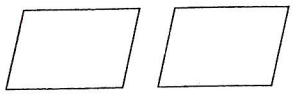
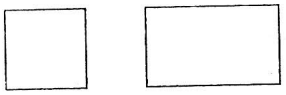
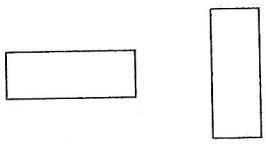
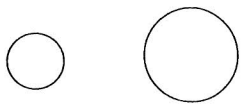
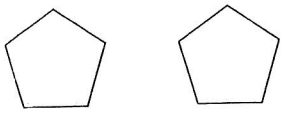
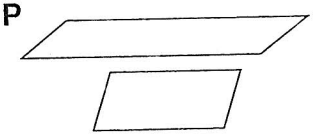
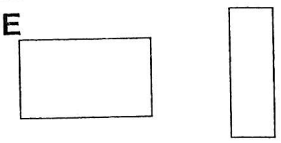
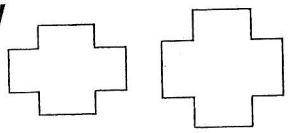
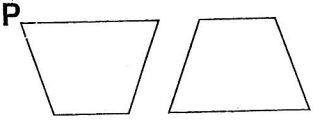
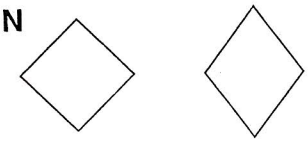
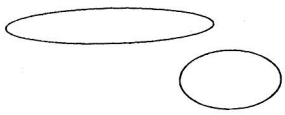
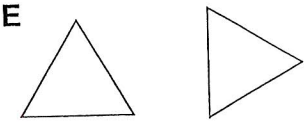
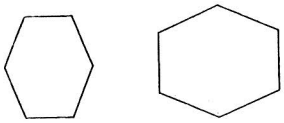
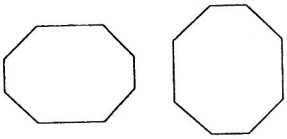
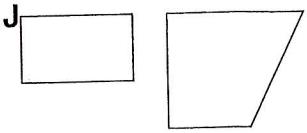
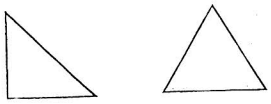
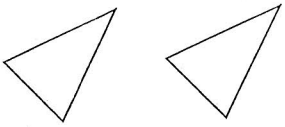
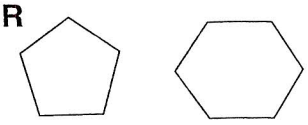
Name _____ Date _____ Class _____

LESSON 8-9

Puzzles, Twisters & Teasers

What is the difference?

Identify the pair of congruent figures in each row. Notice the letter next to each correct answer. Write the letter on the blank line which corresponds to the problem you have just solved. (There is only one correct answer per problem.)

1.	T 	E 	A 
2.	R 	C 	L 
3.	I 	P 	E 
4.	W 	P 	N 
5.	N 	T 	E 
6.	F 	C 	J 
7.	A 	S 	R 

What do polar bears wear on their heads?

___	___	___		___	___	___	___
3	2	5		6	1	4	7

Sixth Grade
Math Vocabulary
6.15 Congruence

1. **Congruent – Figures having the same size and shape.**

2. **Similar – Figures that have the same shape but not necessarily the same size.**

3. **Noncongruent – Figures that does not have the same size or shape.**

4. **Congruent Angles – Angles that have the same measures.**

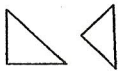
5. **Vertical Angles – Angles formed opposite of each other when two lines intersect. Vertical Angles are always congruent.**

6. **Adjacent Angles – Angles formed side by side and have a common vertex and ray. Adjacent Angles may or may not be congruent.**

Name _____ Date _____

Homework: Recognizing Similar and Congruent Figures

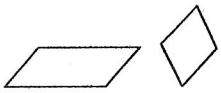
The two figures are



__X__ similar and not congruent
_____ similar and congruent

The figures have the same shape but not the same size.

1. The two figures are

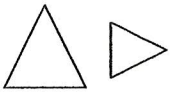


___ not similar
___ not congruent

2. The two figures are

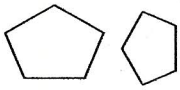
___ congruent
___ similar

3. The two figures are



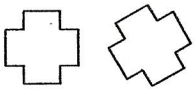
___ congruent
___ similar

4. The two figures are



___ not similar
___ not congruent

5. The two figures are

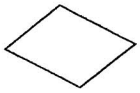
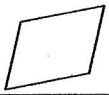
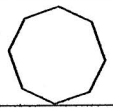
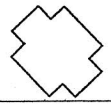
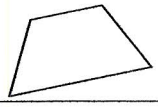
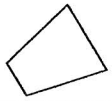


___ similar and congruent
___ not similar and not congruent

6. The two figures are

___ similar and congruent
___ similar and not congruent

In each row, circle the figure that is congruent to the first figure.

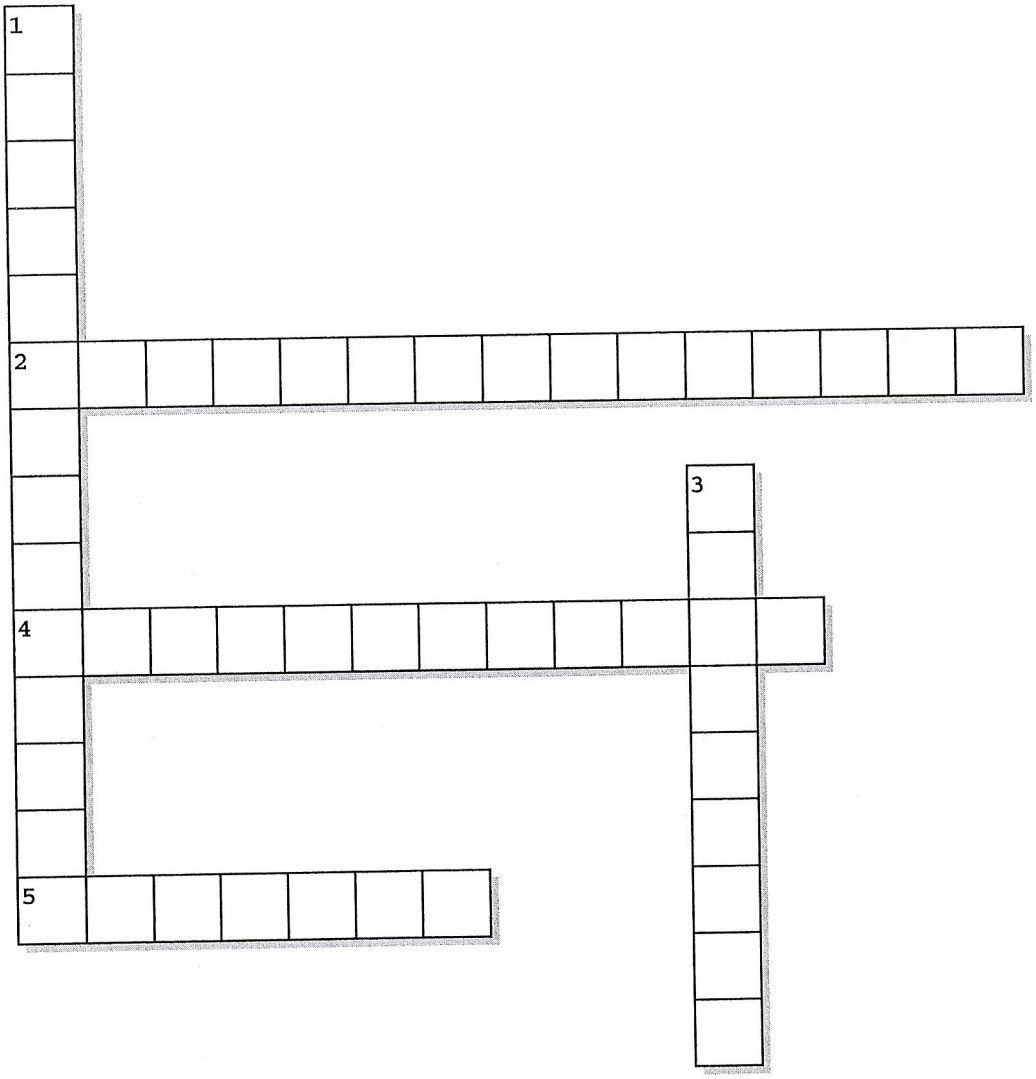
7. 			
8. 			
9. 			
10. 			

Super Crossword Creator!

Name: _____

Date: _____

Crossword Puzzle



Across

2 Angles that have the same measures.

4 Figures that does not have the same size or shape.

5 Figures that have the same shape but not necessarily the same size.

Down

1 Angles formed opposite of each when two lines intersect.

3 Figures having the same size and shape.

Name _____
Class _____
Date _____

6.15 Congruence
Math Vocabulary Quiz

1. _____ Angles formed side by side and have a common vertex and ray. Adjacent Angles may or may not be congruent.

2. _____ Figures having the same size and shape.

3. _____ Angles formed opposite of each other when two lines intersect. Vertical Angles are always congruent.

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

5. _____ Angles that have the same measures.

6. _____ Figures that does not have the same size of shape.

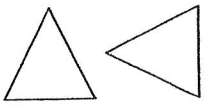
Adjacent Angles **Congruent** **Similar**

Noncongruent **Vertical Angles** **Congruent Angles**

Name _____ Date _____

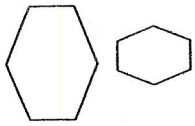
Independent Practice 2: Recognizing Similar and Congruent Figures

1. The two figures are



___ congruent
___ similar

2. The two figures are

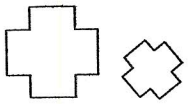


___ not similar
___ not congruent

3. The two figures are

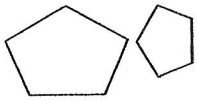
___ not similar
___ not congruent

4. The two figures are



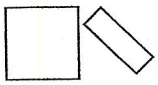
___ congruent
___ similar

5. The two figures are



___ similar and congruent
___ similar and not congruent

6. The two figures are

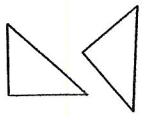


___ similar and congruent
___ not similar and not congruent

7. The two figures are

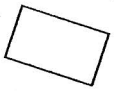
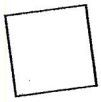
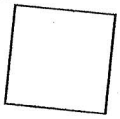
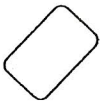
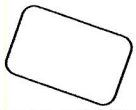
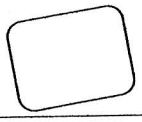
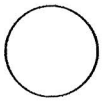
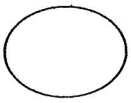
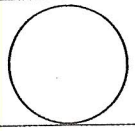
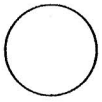
___ similar and congruent
___ not similar and not congruent

8. The two figures are



___ similar and congruent
___ similar and not congruent

In each row, circle the figure that is congruent to the first figure.

9. 			
10. 			
11. 			
12.