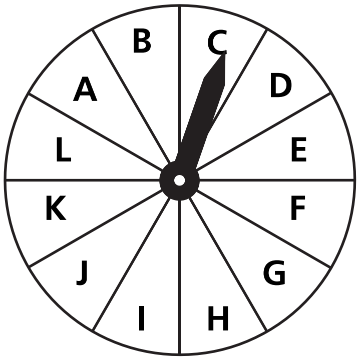
Name ______________________ Date ____________

Extension
Lesson 1

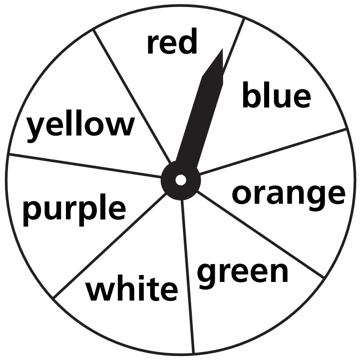
Introducing Angles

For 1–2, tell how many players could use the spinner in a fair game, if each letter or color gives one player a point. Explain how each number of players could use the spinner.

1



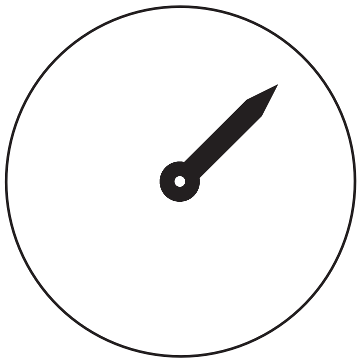
2



For 3–4, complete the spinner so that it could be used in a fair game by the number of players named.

3 5 players, but not 2 players

4 3 players, but not 2 players

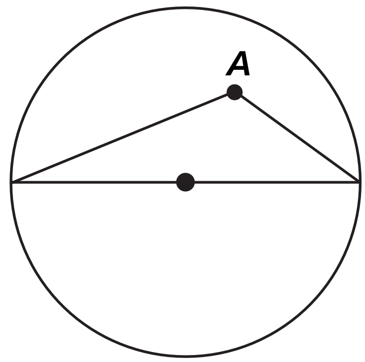


Classifying Angles

1. Mark a point inside of the circle.

Connect your point to both ends of the line going through the center of the circle.

Mark another point inside the circle, and connect it to the ends of the line.



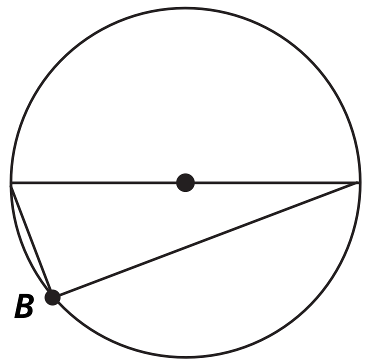
What kind of angles (acute, right, or obtuse) have you made?

____

2. Mark a point on the edge of the circle.

Connect your point to both ends of the line going through the center of the circle.

Repeat with other points.



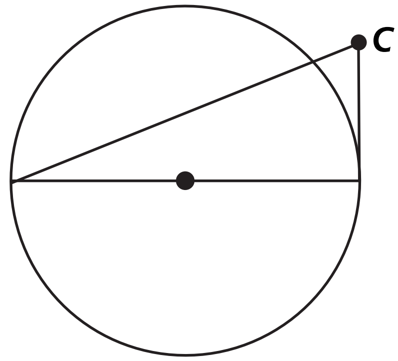
What do you notice about all of the angles you made?

____

3. Mark a point outside of the circle.

Connect your point to both ends of the line going through the center of the circle.

Repeat with other points.



What do you notice about all of the angles you made?

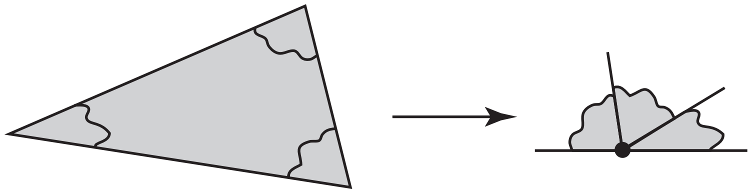
____

Name ________________________ Date ____________

Classifying Triangles by Angles

You can discover a pattern about the angles of a triangle. Study the model shown below. Then describe what you see.

The angles of the acute triangle at the right were each torn off. Then the angles were arranged around a point.



Describe what you see.

____

____

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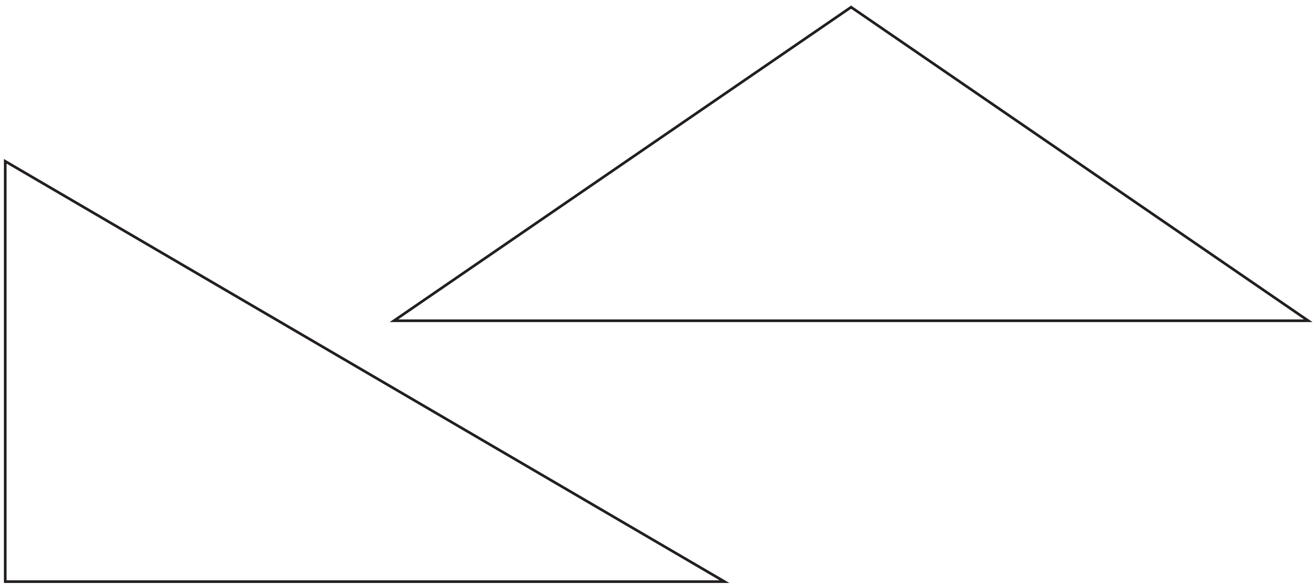
Now, copy and cut out each of the triangles shown below. Tear off the angles of each triangle, and arrange them around a point on a sheet of paper. Then describe the pattern that you see.



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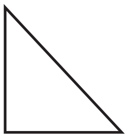
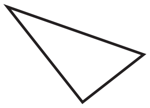
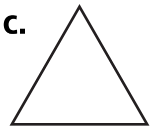
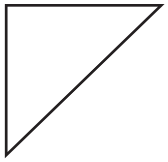
Name ______________________ Date ______________

Extension
Lesson 4

Classifying Triangles by Side Length

Use a ruler and a square corner. One of the triangles in each group is different from the rest. Choose the one that is different. Explain your reason for choosing it. In each group, there is more than one possible answer.

1 **a.**  **b.**  **c.**  **d.** 

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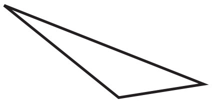
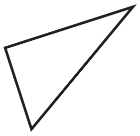
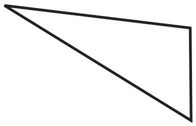
2 **a.**  **b.**  **c.**  **d.** 

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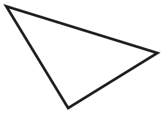
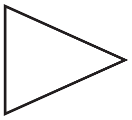
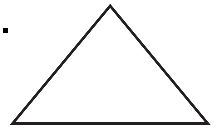
3 **a.**  **b.**  **c.**  **d.** 

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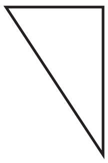
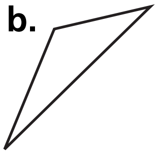
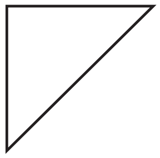
4 **a.**  **b.**  **c.**  **d.** 

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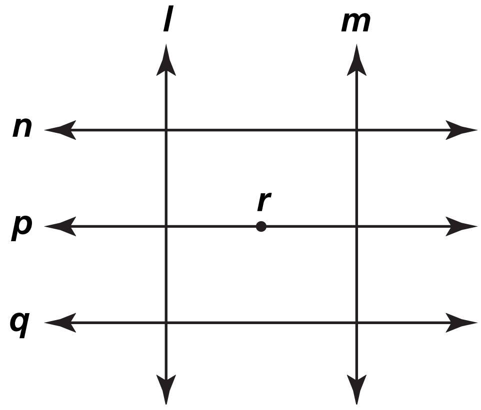
Name ______________________ Date ______________

Introducing Perpendicular and Parallel Lines



For 1–5, use the figure. Write *true* or *false*, and explain how you decided. You may want to try additional examples on your own.

1. If two lines are each parallel to a third line, then they are parallel to each other.

____

____

____

2. If two lines are perpendicular to a third line, then they are perpendicular to each other.

____

____

____

3. If two lines are perpendicular to a third line, then they are parallel to each other.

____

____

____

4. If two lines are parallel to a third line, then they are perpendicular to each other.

____

____

____

Name ______________________ Date ______________

Extension
Lesson 6

Classifying Quadrilaterals by the Number of Parallel Sides

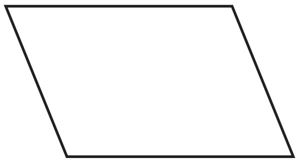
Create new figures. Describe what is special about the cuts you make that allow the correct results.

1. Cut this parallelogram into two other parallelograms.

____

____

2. Cut the parallelogram into two trapezoids.



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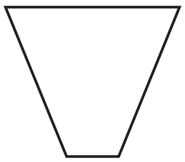
3. Cut this trapezoid into a parallelogram and a triangle.



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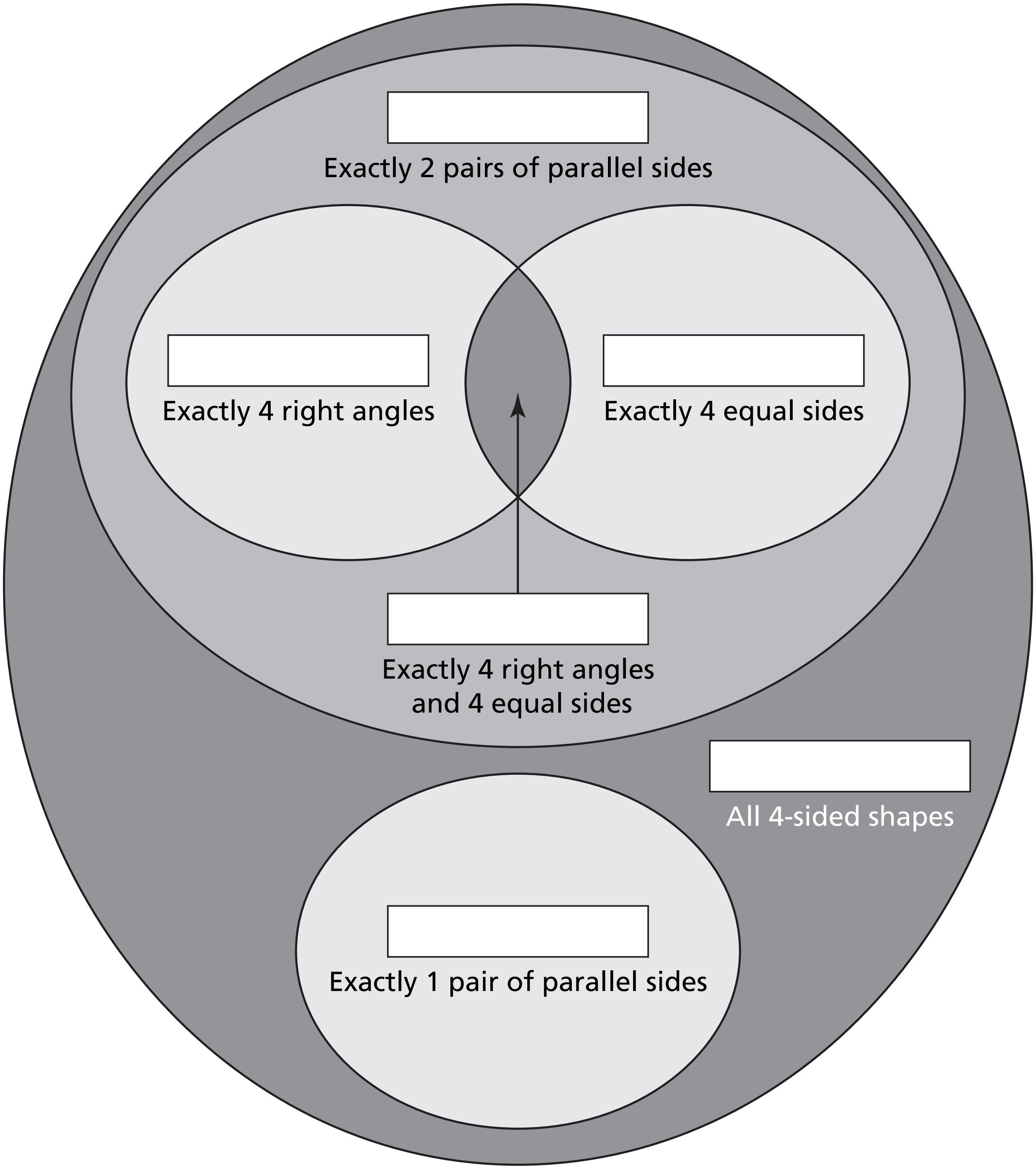
Name ______________________________ Date ______________

Classifying Parallelograms

Use the words below to complete the Venn diagram.

parallelograms	rectangles	squares
quadrilaterals	rhombuses	trapezoids



Name ______________________ Date ____________

Symmetry in Triangles and Quadrilaterals

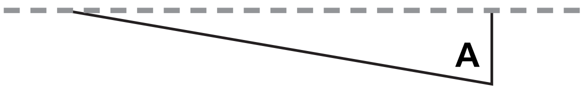
Reflect each figure across the dotted line. You might use a ruler.

1. What kind of triangle is formed by the figure and its image?

acute and ______________________

Are there other lines of symmetry?

____



2. Which other angle (or angles) has the same measure as ∠A? How do you know?

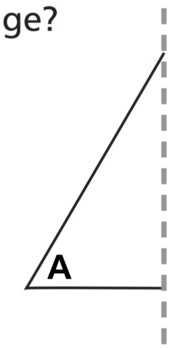
____

____

3. What kind of triangle is formed by the figure and its image?

____

Draw in all other lines of symmetry.



4. Which other angle (or angles) has the same measure as ∠A? How do you know?

____

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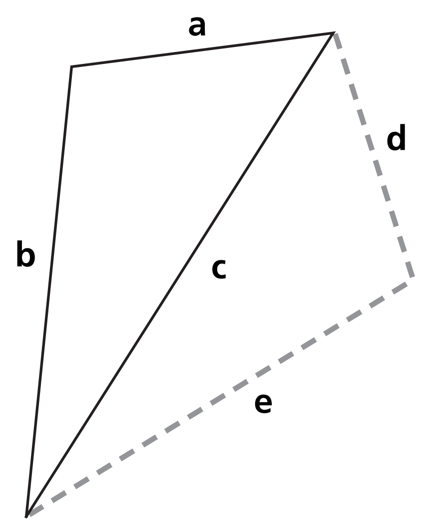
Name ______________________ Date ____________

Working with Transformations

Johnny transformed a triangle to make this quadrilateral.



1. Describe a transformation Johnny might have done.

____

2. Which side is the same length as **a?**

____

3. Which side is the same length as **e?**

____

How do you know?

____

____

____

4. Are the two triangles congruent?

____

5. Triangle **abc** could have been transformed to make a parallelogram. Describe this transformation.

____

____