



Fourth Grade Math

This packet includes four sections that cover some of the major content of 4th Grade Math. Each section includes notes and practice for each topic. For additional support, visit KCS TV on YouTube for instructional videos that accompany each section.

The following content is included in this packet:




	Topic			
	I. Classify Two-Dimensional Figures	II. Multiply and Divide Whole Numbers	III. Equivalent Fractions and Comparing Fractions	IV. Relate Decimals and Fractions and Compare Decimals
Activity 1	Compare Quadrilaterals	Multiplying Whole Numbers	Equivalent Fractions	Fractions and Decimals
Activity 2	Sorting Shapes based on parallel and perpendicular sides	Dividing Whole Numbers	Compare Fractions-Common Denominators	Compare Fractions
Activity 3	Sorting Shapes based on angles		Compare Fractions-Using a Benchmark	Compare Tenths and Hundredths
Activity 4	Sorting Triangles based on angles and lengths of sides			

4th Grade Math- Activity Section I

Standard: 4.G.A.2

Example

Is every square also a rectangle and a rhombus?
Use a table to compare quadrilaterals.

Quadrilateral	4 sides 4 angles	4 square corners	2 pairs of parallel sides	2 pairs of sides that are the same length	4 sides that are the same length
square 	✓	✓	✓	✓	✓
rectangle 	✓	✓	✓	✓	sometimes
rhombus 	✓	sometimes	✓	✓	✓

Yes. Every square can be named as a rectangle and a rhombus.

- 1** A parallelogram is a quadrilateral with 2 pairs of parallel sides and 2 pairs of sides that are the same length. Circle the quadrilaterals below that are parallelograms.



- 2** Look at problem 1. Is quadrilateral B a parallelogram? Explain.

- 3** A rectangle is a quadrilateral. Describe a rectangle by telling about its sides and its corners.

Solve.

- 4** Use the words in the box. Name each shape below. Use as many words from the box as apply. Describe the sides and corners of each shape.

quadrilateral
parallelogram
rectangle
rhombus
square



a. Names: _____

Description: _____

b. Names: _____

Description: _____

- 5** Draw a quadrilateral that has at least 1 pair of parallel sides, but no square corners.

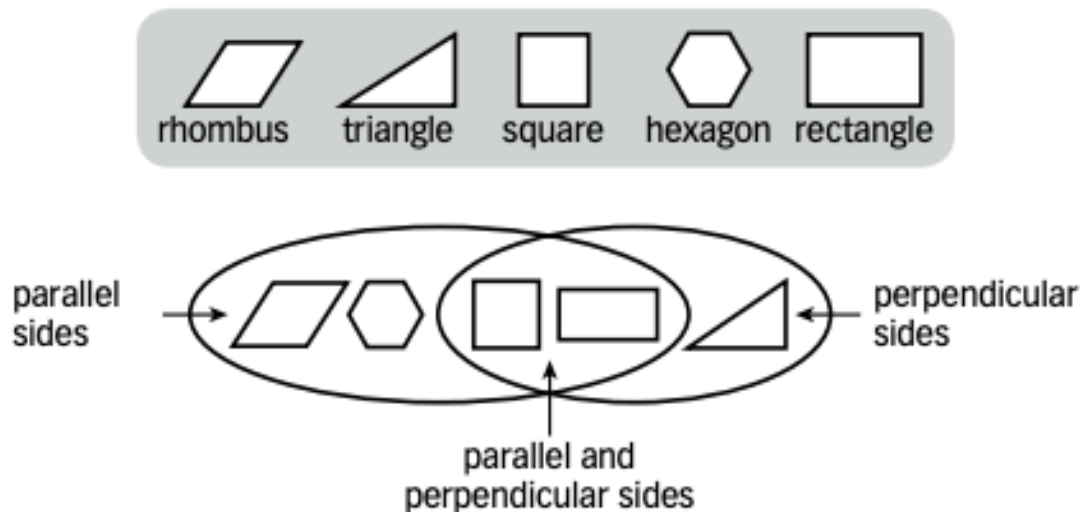
- 6** Draw a quadrilateral that has at least 1 square corner, but is not a rectangle.

- 7** Draw a quadrilateral that does not have pairs of parallel sides or sides of the same length.

Study the example showing how to sort shapes into groups based on parallel and perpendicular sides. Then solve problems 1–4.

Example

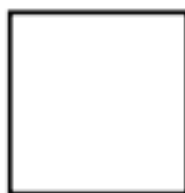
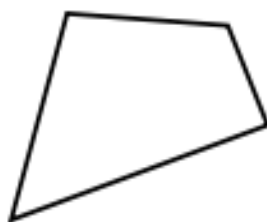
Sort the shapes in the box based on parallel and perpendicular sides. Put the shapes in the Venn diagram below.



- 1** Look at the Venn diagram in the example above. Then look at the shape at the right. Which group in the Venn diagram does the shape belong in?



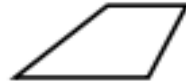



- 2** Suppose there is another group for shapes with “no parallel or perpendicular sides.” Circle the shapes below that belong in this group.



Solve.

- 3** Look at each shape below. Choose *Yes* or *No* to tell whether the shape has parallel sides. Then choose *Yes* or *No* to tell whether it has perpendicular sides.

	Parallel Sides		Perpendicular Sides	
a. 	Yes	No	Yes	No
b. 	Yes	No	Yes	No
c. 	Yes	No	Yes	No
d. 	Yes	No	Yes	No

- 4** Look at the shapes of the road signs below. Write the name of each sign in the Venn diagram to sort the shapes based on parallel or perpendicular sides.



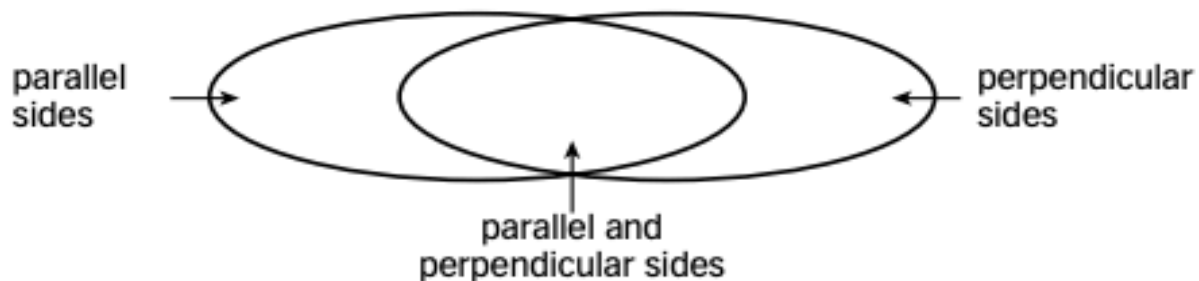
Crosswalk sign



Stop sign



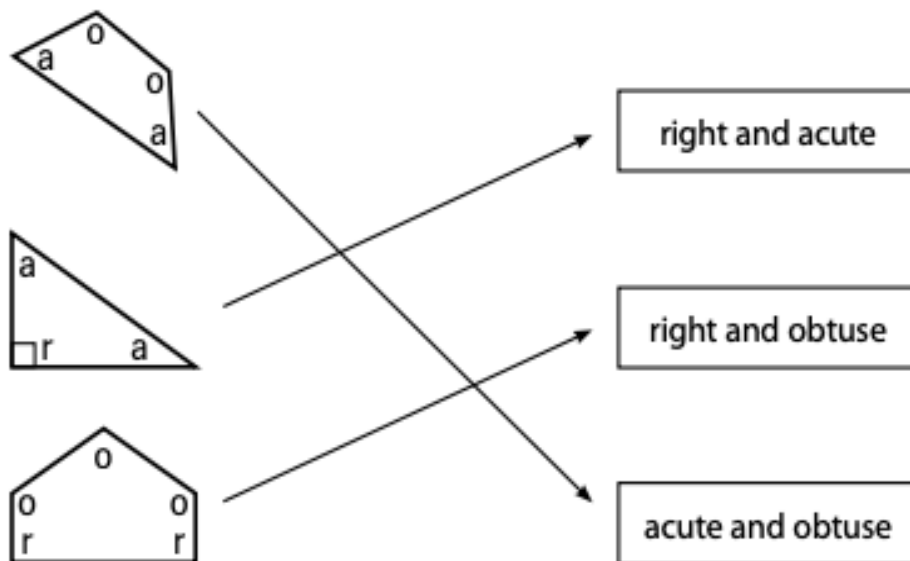
Speed limit sign



Study the example showing how to sort shapes into groups based on angles. Then solve problems 1–5.

Example

Label each angle in the shapes below with “a” for acute, “r” for right, and “o” for obtuse. Then draw an arrow from each shape to the group it belongs to.








1 Write the number of acute, right, and obtuse angles for each pentagon shown in the table below.

	Acute	Right	Obtuse

2 Explain how these pentagons are different based on their angles.

Solve.

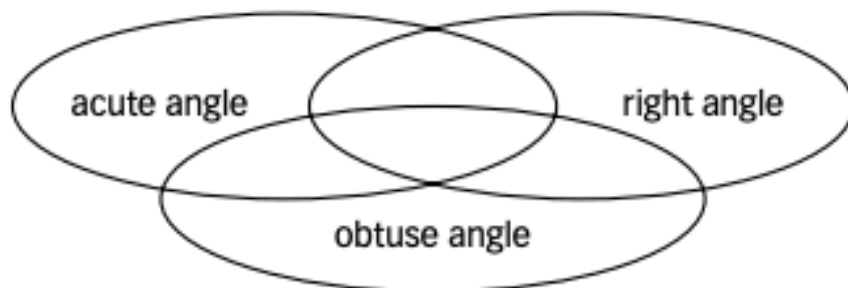
3 Choose *Yes* or *No* to tell whether each shape belongs in the group described.

- a.  all right angles Yes No
- b.  right and acute angles Yes No
- c.  obtuse and acute angles Yes No
- d.  right and obtuse angles only Yes No
- e.  all obtuse angles Yes No

4 Describe a group that the two shapes below belong in, based on the kind of angles the shapes have.



5 Look at the shapes in problem 4. Where do they belong in the Venn diagram below? Mark the place with an X.



Study the example showing how to sort triangles into groups based on kinds of angles and lengths of sides. Then solve problems 1–4.

Example

What is the same about the two triangles shown at the right? What is different?

You can sort triangles into groups based on the kinds of angles they have: acute, right, or obtuse.

You can also sort triangles based on the lengths of their sides.

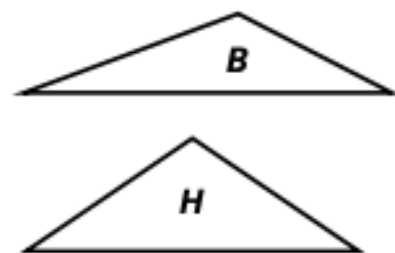
equilateral: 3 equal sides

isosceles: 2 equal sides

scalene: 0 equal sides

Triangles *B* and *H* are the same because they are both obtuse triangles. They each have 1 obtuse angle.

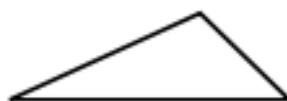
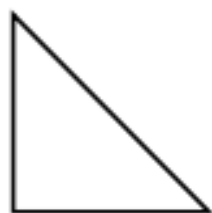
Triangles *B* and *H* are different because triangle *B* is a scalene triangle and triangle *H* is an isosceles triangle.



- 1** Look at the table. Name each triangle below based on the kinds of angles it has and the lengths of its sides.

Name	Description of Angles
acute	3 acute angles
right	1 right angle
obtuse	1 obtuse angle

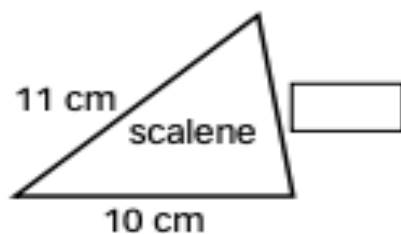
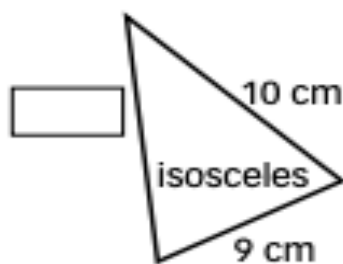
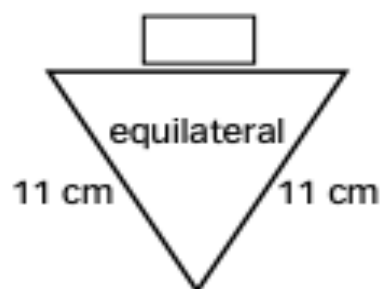
Name	Description of Sides
equilateral	3 equal sides
isosceles	2 equal sides
scalene	0 equal sides



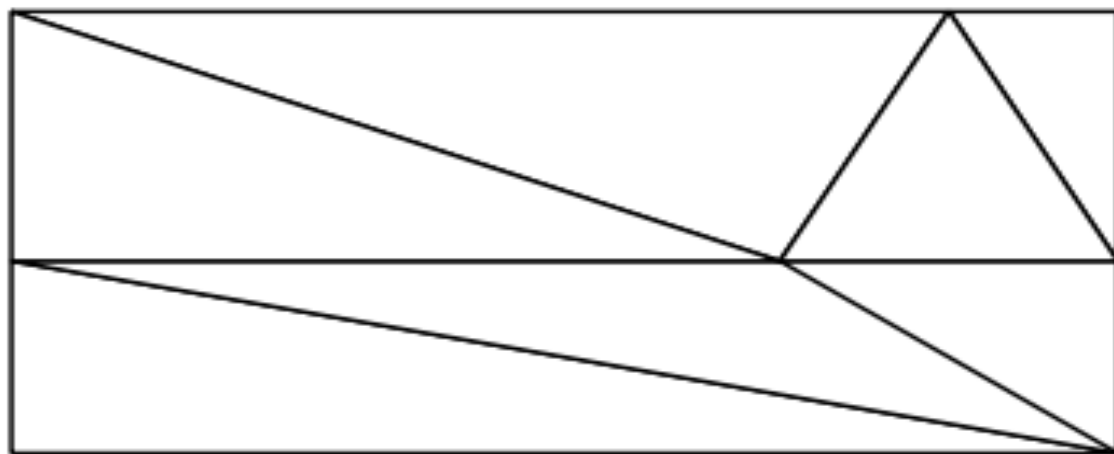
Solve.

- 2** Look at the name of each triangle below. Then use the numbers in the boxes to write the missing length for one side of each triangle.

9 cm 10 cm 11 cm



- 3** Norma drew the lines shown below on a piece of paper. Write labels inside each triangle formed by the lines: "a" for acute, "r" for right, "o" for obtuse, "e" for equilateral, "i" for isosceles, "s" for scalene.



- 4** Circle the letter of each true statement below.
- a. An obtuse triangle does not have acute angles.
 - b. A scalene triangle can be isosceles.
 - c. Equilateral triangles are always acute.
 - d. Isosceles triangles may also be equilateral.
 - e. Right triangles are scalene or isosceles.

ACTIVITY SET I- ANSWER KEY

1 A parallelogram is a quadrilateral with 2 pairs of parallel sides and 2 pairs of sides that are the same length. Circle the quadrilaterals below that are parallelograms.



2 Look at problem 1. Is quadrilateral B a parallelogram? Explain.

No. Possible explanation: Quadrilateral B has only 1 pair of parallel sides.

A parallelogram has 2 pairs of parallel sides.

3 A rectangle is a quadrilateral. Describe a rectangle by telling about its sides and its corners.

Possible answer: A rectangle has 4 square corners. It has 2 pairs of parallel sides and 2 pairs of sides that are the same length.

4 Look at each shape below. Choose Yes or No to tell whether the shape has parallel sides. Then choose Yes or No to tell whether it has perpendicular sides.

	Parallel Sides		Perpendicular Sides	
a.	Yes	<input checked="" type="radio"/> No	Yes	<input checked="" type="radio"/> No
b.	<input checked="" type="radio"/> Yes	No	Yes	No
c.	<input checked="" type="radio"/> Yes	No	Yes	<input checked="" type="radio"/> No
d.	Yes	<input checked="" type="radio"/> No	Yes	<input checked="" type="radio"/> No

5 Look at the shapes of the road signs below. Write the name of each sign in the Venn diagram to sort the shapes based on parallel or perpendicular sides.



6 Use the words in the box. Name each shape below. Use as many words from the box as apply. Describe the sides and corners of each shape.



quadrilateral
parallelogram
rectangle
rhombus
square

a. Name: Quadrilateral, parallelogram
Description: Possible answer: The shape has 4 sides. It has no square corners, 2 pairs of parallel sides, and 2 pairs of sides that are the same length.

b. Name: Square, rhombus, rectangle, parallelogram, quadrilateral
Description: Possible answer: The shape has 4 square corners, 2 pairs of parallel sides, and 4 sides that are the same length.

7 Draw a quadrilateral that has at least 1 pair of parallel sides, but no square corners. Possible drawings: Drawings may vary. Drawings should show a trapezoid or a parallelogram.

8 Draw a quadrilateral that has at least 1 square corner, but is not a rectangle. Possible drawings: Drawings may vary. Drawings should show a quadrilateral with at least 1 square corner that has no pairs of parallel sides or 1 pair of parallel sides.

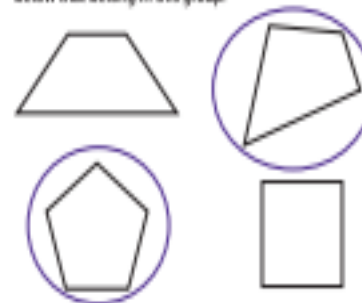
9 Draw a quadrilateral that does not have pairs of parallel sides or sides of the same length. Drawings will vary. Drawings should show a 4-sided shape with no parallel sides and side lengths that are all different.

10 Look at the Venn diagram in the example above. Then look at the shape at the right. Which group in the Venn diagram does the shape belong in?

parallel sides



11 Suppose there is another group for shapes with "no parallel or perpendicular sides." Circle the shapes below that belong in this group.



12 Choose Yes or No to tell whether each shape belongs in the group described.

- a. all right angles Yes No
- b. right and acute angles Yes No
- c. obtuse and acute angles Yes No
- d. right and obtuse angles only Yes No
- e. all obtuse angles Yes No

13 Describe a group that the two shapes below belong in, based on the kind of angles the shapes have.



right, acute, and obtuse angles

14 Look at the shapes in problem 4. Where do they belong in the Venn diagram below? Mark the place with an X.



15 Write the number of acute, right, and obtuse angles for each pentagon shown in the table below.

	Acute	Right	Obtuse
	1	2	2
	0	0	5

16 Explain how these pentagons are different based on their angles.

Possible explanation: Pentagon X has acute, right, and obtuse angles.

Pentagon Y has all obtuse angles.

- 1 Look at the table. Name each triangle below based on the kinds of angles it has and the lengths of its sides.

Name	Description of Angles	Name	Description of Sides
acute	3 acute angles	equilateral	3 equal sides
right	1 right angle	isosceles	2 equal sides
obtuse	1 obtuse angle	scalene	3 equal sides



right, isosceles

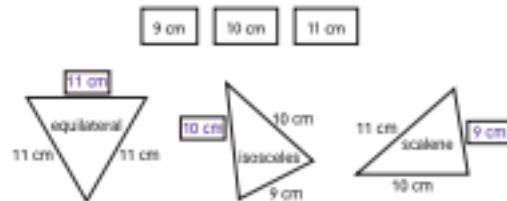


equilateral, acute

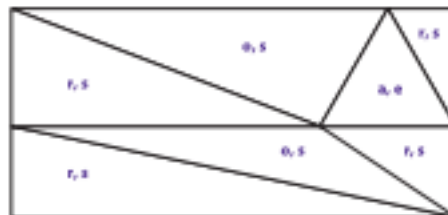


obtuse, scalene

- 2 Look at the name of each triangle below. Then use the numbers in the boxes to write the missing length for one side of each triangle.



- 3 Norma drew the lines shown below on a piece of paper. Write labels inside each triangle formed by the lines: "a" for acute, "r" for right, "o" for obtuse, "e" for equilateral, "i" for isosceles, "s" for scalene.



- 4 Circle the letter of each true statement below.
- An obtuse triangle does not have acute angles.
 - A scalene triangle can be isosceles.
 - Equilateral triangles are always acute.
 - Isosceles triangles may also be equilateral.
 - Right triangles are scalene or isosceles.