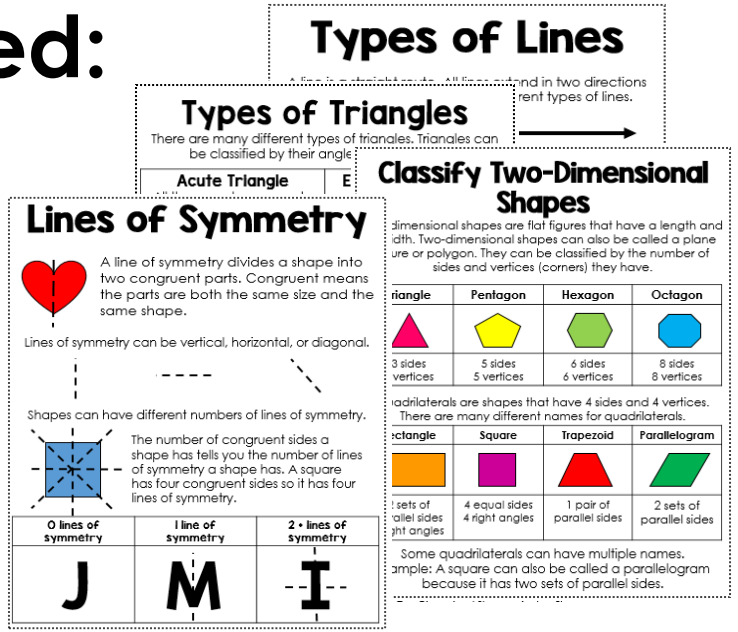
Interactive Math Journal

Geometry Edition

Journal Entries Included:

- Types of Lines
- Lines of Symmetry
- Types of Triangles
- Classify Two-Dimensional Shapes



Each entry includes four activities to **teach**, **reinforce**, and **assess** the skill.

Teacher Tips

It is suggested you teach the skills in the following order:

1. Types of Lines
2. Lines of Symmetry
3. Types of Triangles
4. Classify Two-Dimensional Shapes

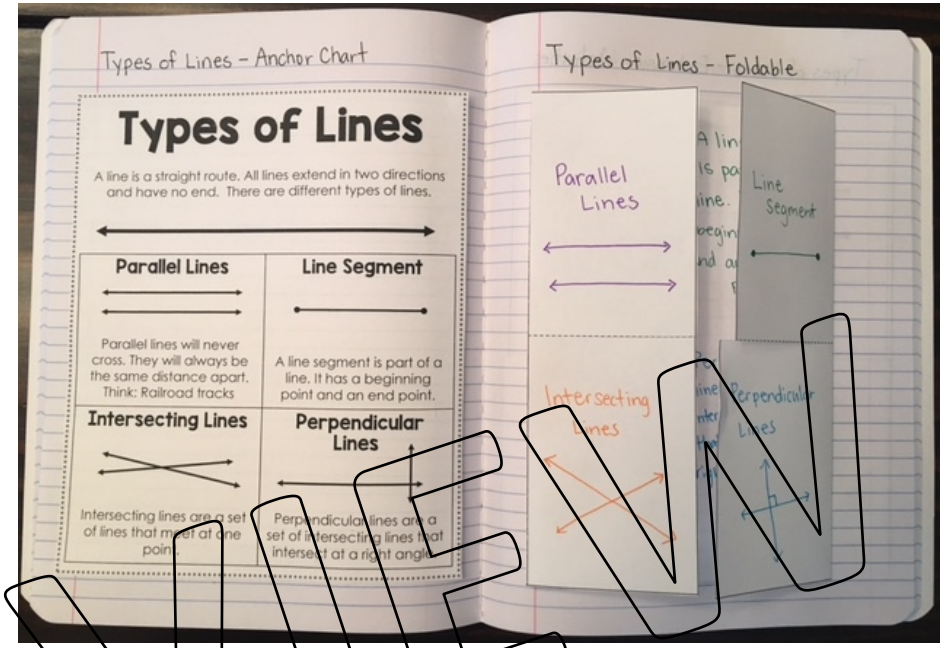
Each Skill has 4 different activities/entries, you can use some or all of the activities to include in your math journal.

Possible Instructional Plan
Day 1 – Introduce the skill with the anchor chart.
Day 2 – Create Foldable and use Extension Activities
Day 3 – Quick Check

The Extension Activities can be placed in a math center or work station if you don't want to include them in the math journal. They can also be sent home as a take home activity if you run out of time during the day to complete them.

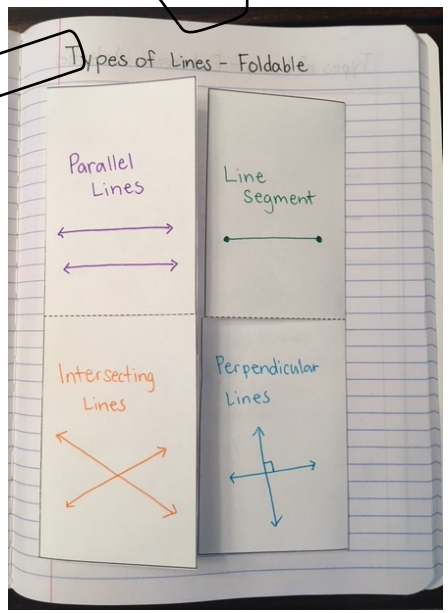
Types of Lines – Assembly Notes & Directions

Anchor Chart
Make enough copies for students. Have students cut and paste in their math journal. Review anchor chart with students as you would a full size anchor chart. Students will be able to reference back to this page if they have questions about place value.

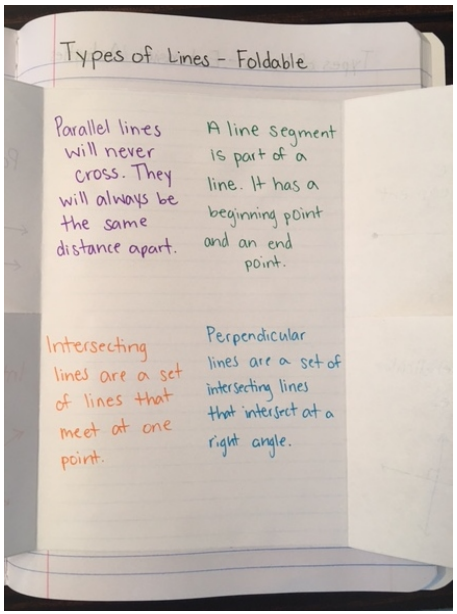


Foldable
See the example provided in the pictures to the right. Create foldable with students. You can modify the examples to meet your students specific learning needs.

Foldable - Outside



Foldable - Inside



Types of Lines – Assembly Notes & Directions

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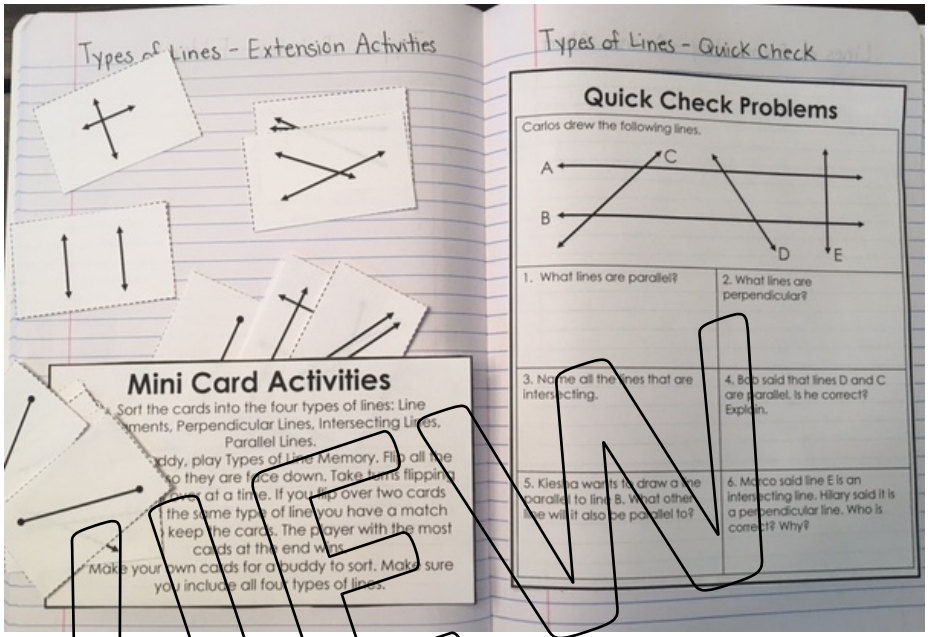

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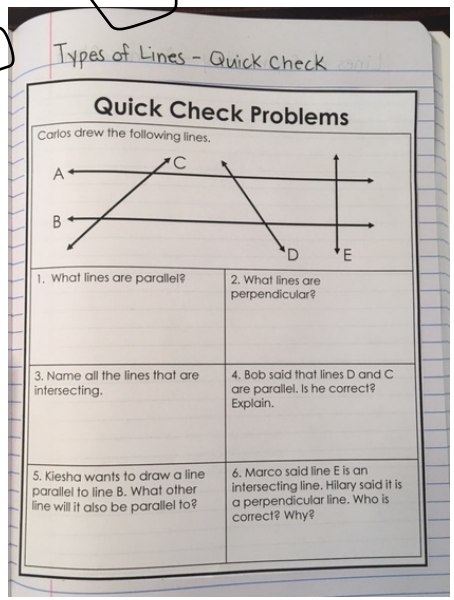
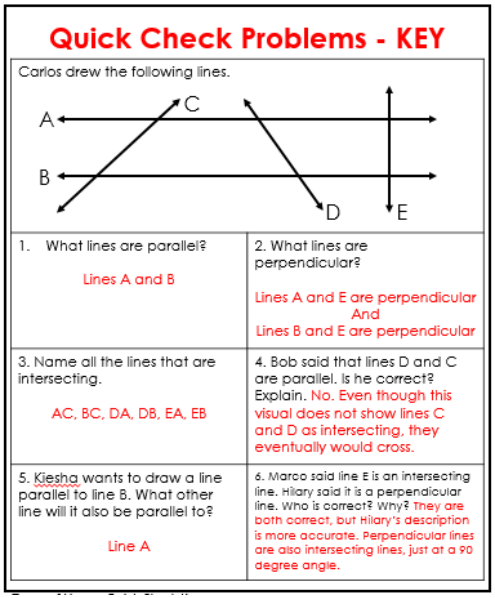
Quick Check



Quick Check - Key



Types of Lines

A line is a straight route. All lines extend in two directions and have no end. There are different types of lines.

Parallel Lines

Parallel lines will never cross. They will always be the same distance apart. Think: Railroad tracks

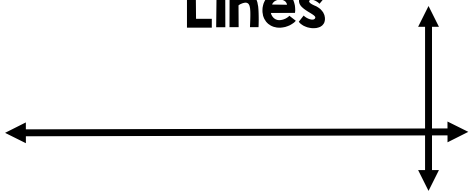
Line Segment

A line segment is part of a line. It has a beginning point and an end point.

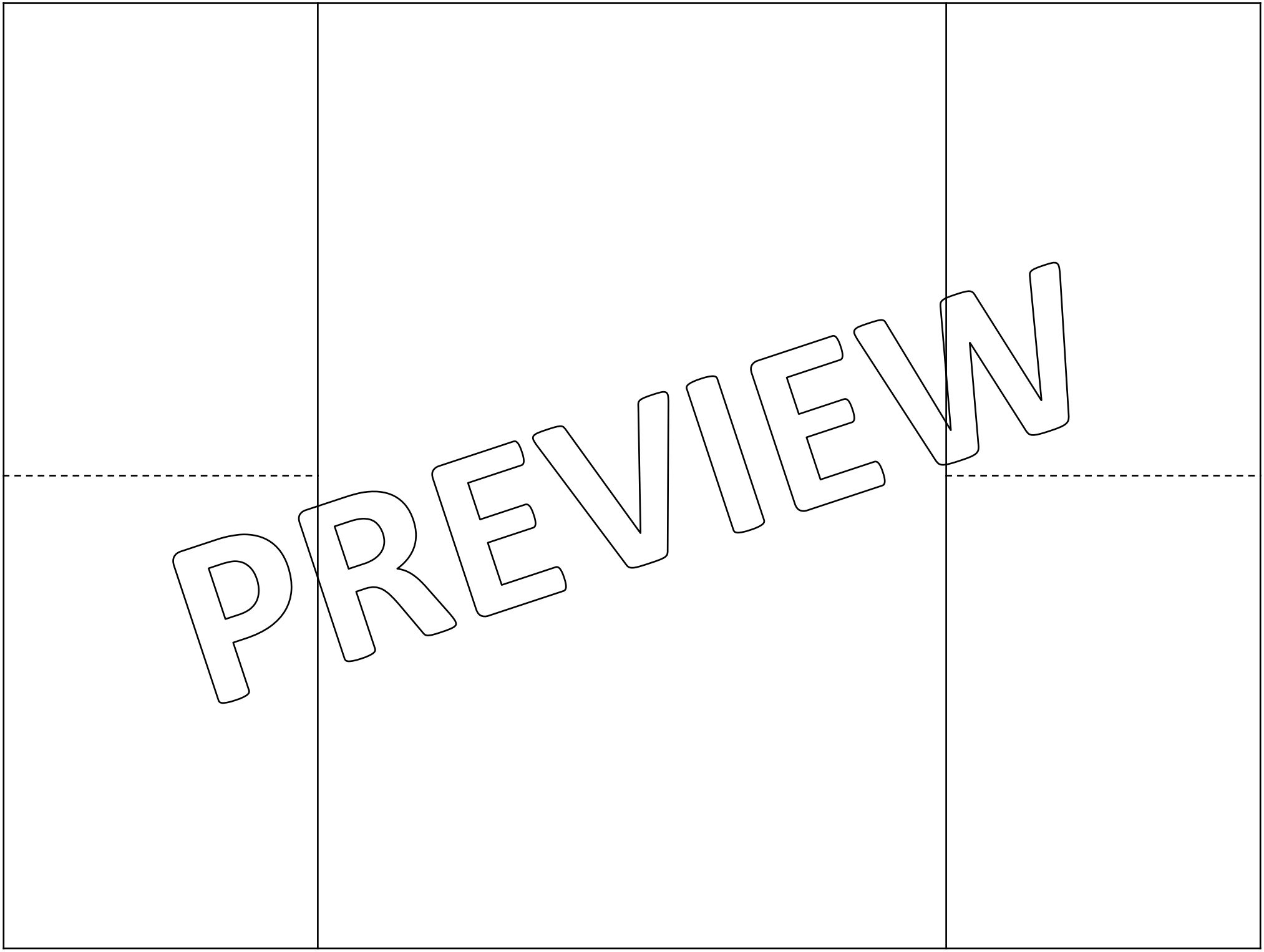
Intersecting Lines

Intersecting lines are a set of lines that meet at one point.

Perpendicular Lines



Perpendicular lines are a set of intersecting lines that intersect at a right angle.



Types of Lines – Foldable

Extension Activities

1. Sort the cards into the four types of lines: Line Segments, Perpendicular Lines, Intersecting Lines, Parallel Lines.
2. With a buddy, play Types of Line Memory. Flip all the cards over so they are face down. Take turns flipping two cards over at a time. If you flip over two cards that show the same type of line you have a match and get to keep the cards. The player with the most cards at the end wins.
3. Make your own cards for a buddy to sort. Make sure you include all four types of lines.

Extension Activities

1. Sort the cards into the four types of lines: Line Segments, Perpendicular Lines, Intersecting Lines, Parallel Lines.
2. With a buddy, play Types of Line Memory. Flip all the cards over so they are face down. Take turns flipping two cards over at a time. If you flip over two cards that show the same type of line you have a match and get to keep the cards. The player with the most cards at the end wins.
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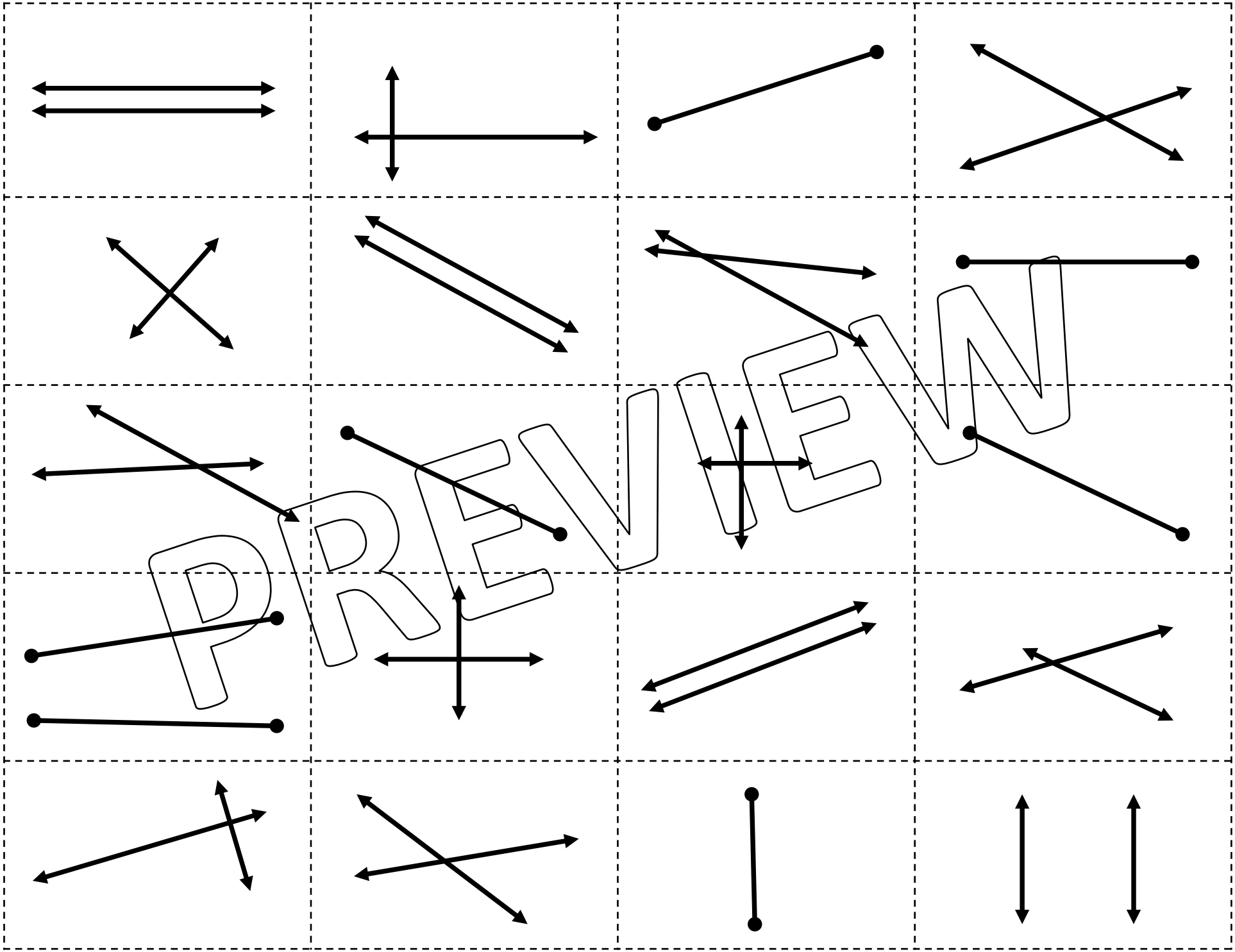
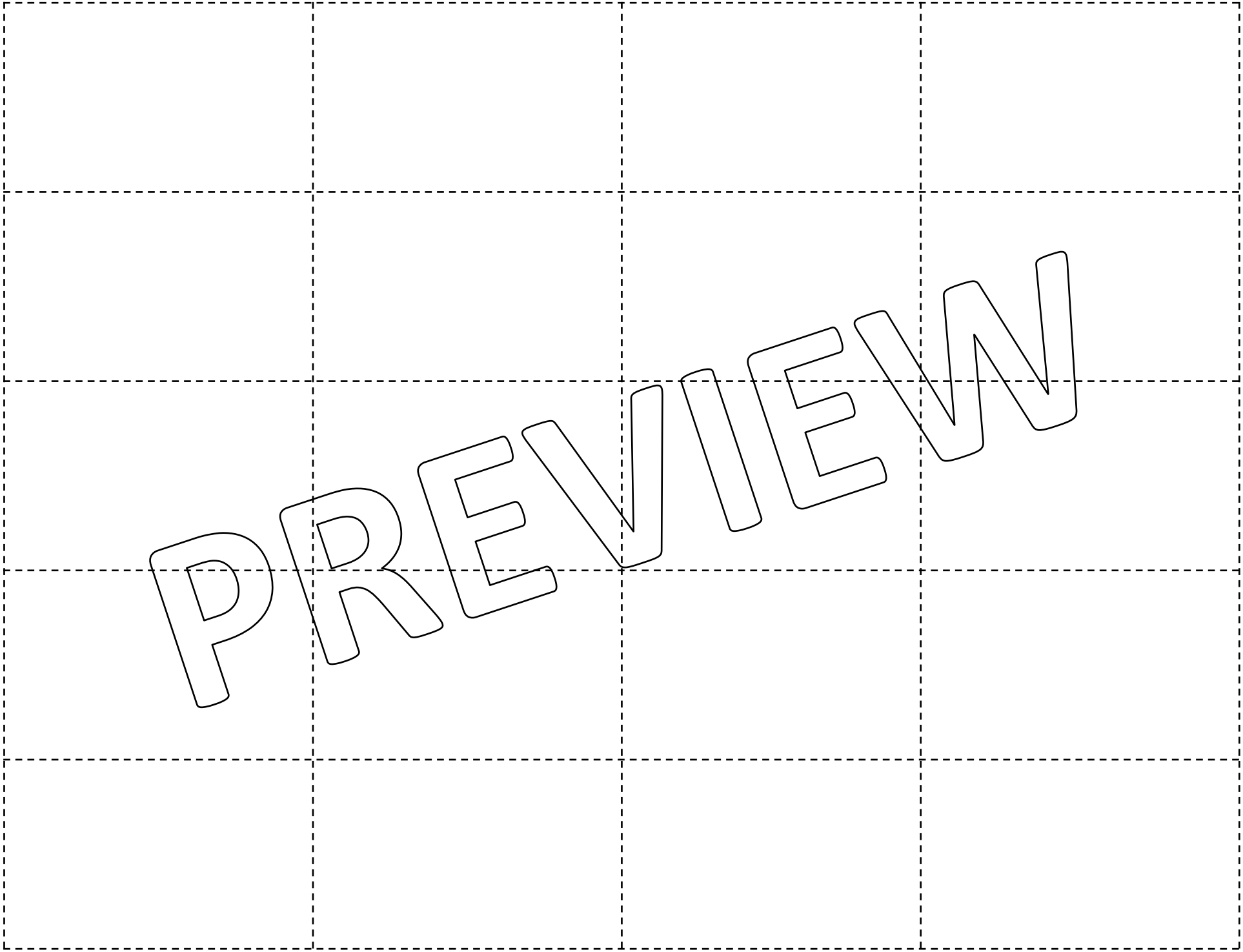


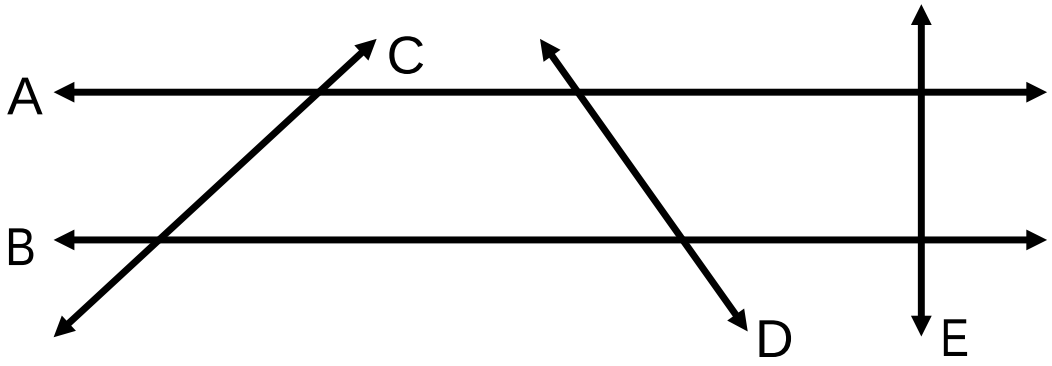
Types of Lines – Extension Cards



Types of Lines – Extension Card Template

Quick Check Problems

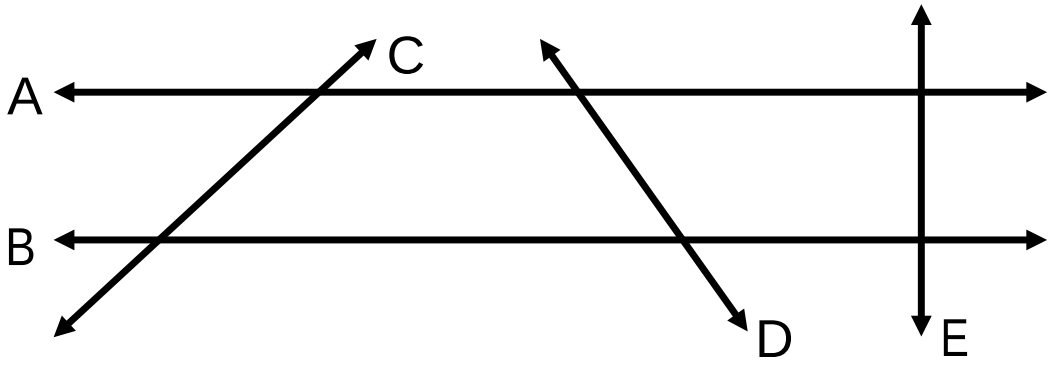
Carlos drew the following lines.



1. What lines are parallel?	2. What lines are perpendicular?
3. Name all the lines that are intersecting.	4. Bob said that lines D and C are parallel. Is he correct? Explain.
5. Kiesha wants to draw a line parallel to line B. What other line will it also be parallel to?	6. Marco said line E is an intersecting line. Hilary said it is a perpendicular line. Who is correct? Why?

Quick Check Problems - KEY

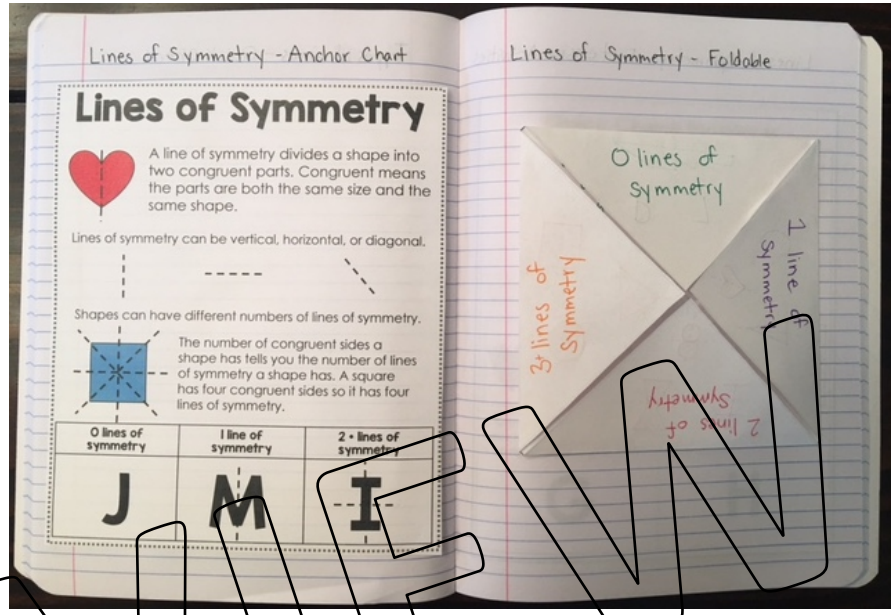
Carlos drew the following lines.



1. What lines are parallel? Lines A and B	2. What lines are perpendicular? Lines A and E are perpendicular And Lines B and E are perpendicular
3. Name all the lines that are intersecting. AC, BC, DA, DB, EA, EB	4. Bob said that lines D and C are parallel. Is he correct? Explain. No. Even though this visual does not show lines C and D as intersecting, they eventually would cross.
5. Kiesha wants to draw a line parallel to line B. What other line will it also be parallel to? Line A	6. Marco said line E is an intersecting line. Hilary said it is a perpendicular line. Who is correct? Why? They are both correct, but Hilary's description is more accurate. Perpendicular lines are also intersecting lines, just at a 90 degree angle.

Lines of Symmetry – Assembly Notes & Directions

Anchor Chart
Make enough copies for students. Have students cut and paste in their math journal. Review anchor chart with students as you would a full size anchor chart. Students will be able to reference back to this page if they have questions about place value.



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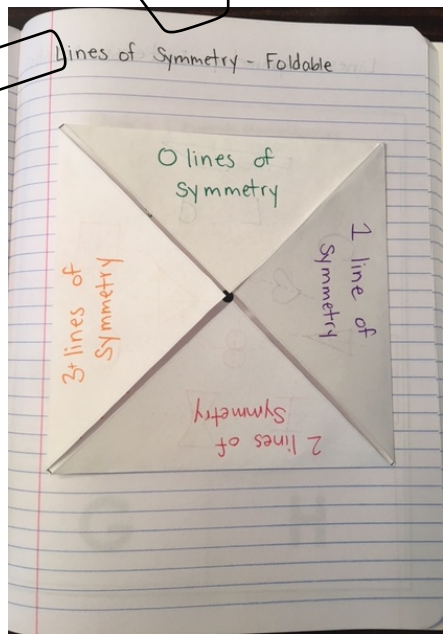
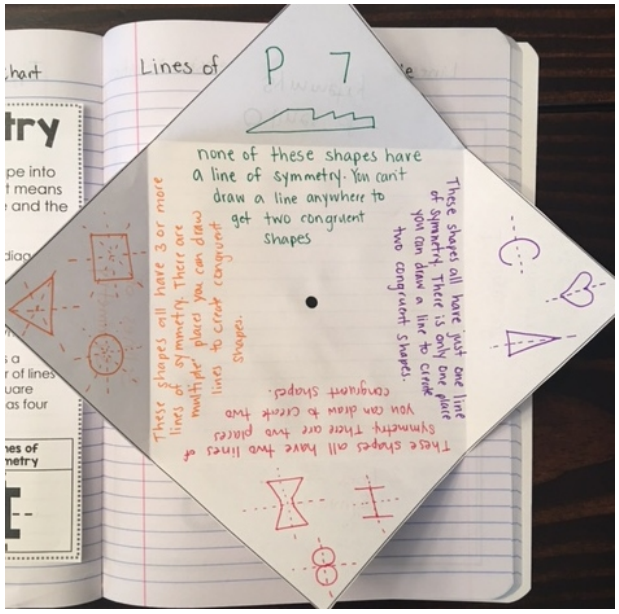


Foldable - Inside



Lines of Symmetry – Assembly Notes & Directions

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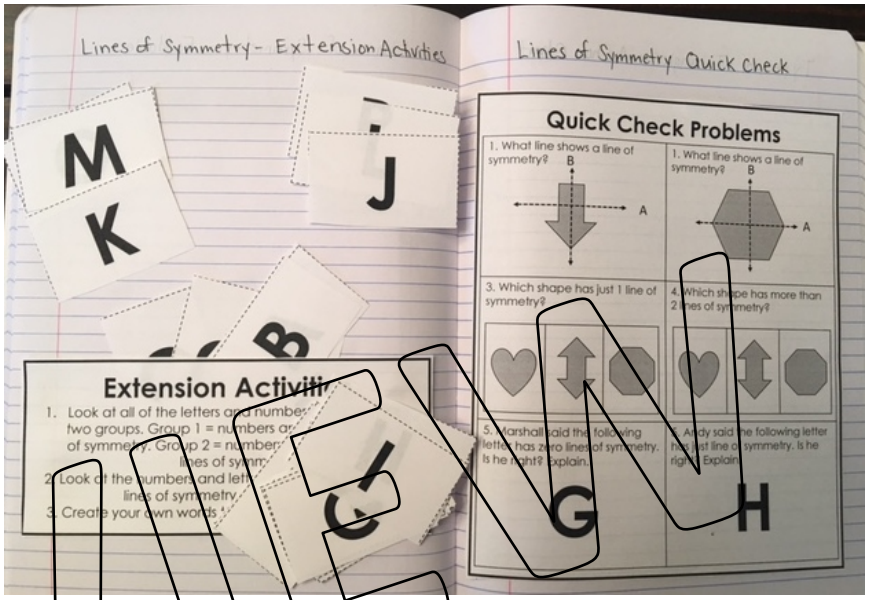

Quick Check
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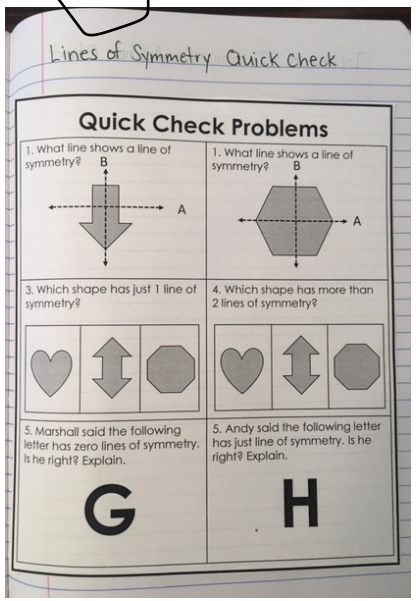
Quick Check



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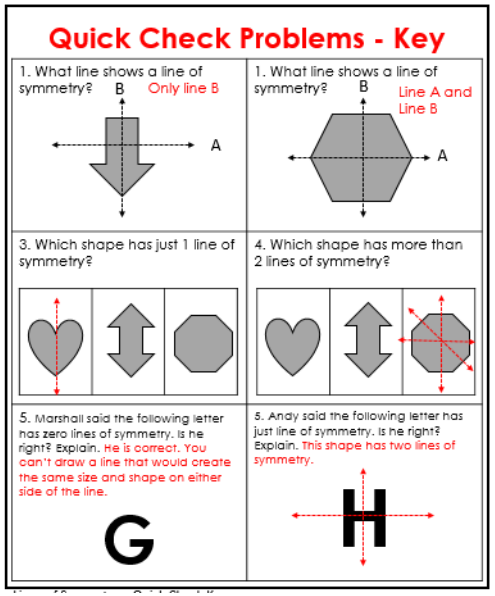
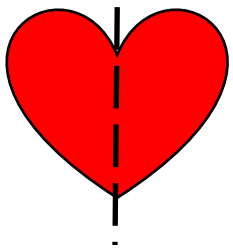
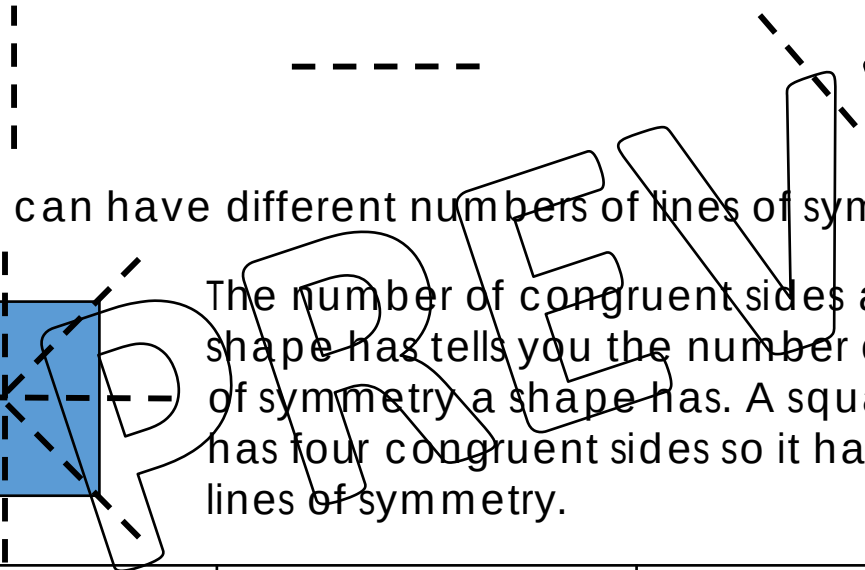


Lines of Symmetry

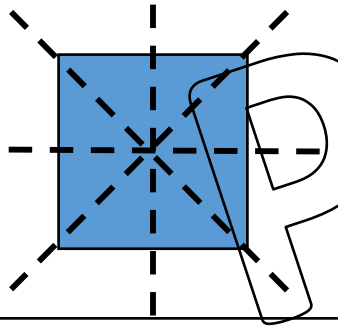


A line of symmetry divides a shape into two congruent parts. Congruent means the parts are both the same size and the same shape.

Lines of symmetry can be vertical, horizontal, or diagonal.

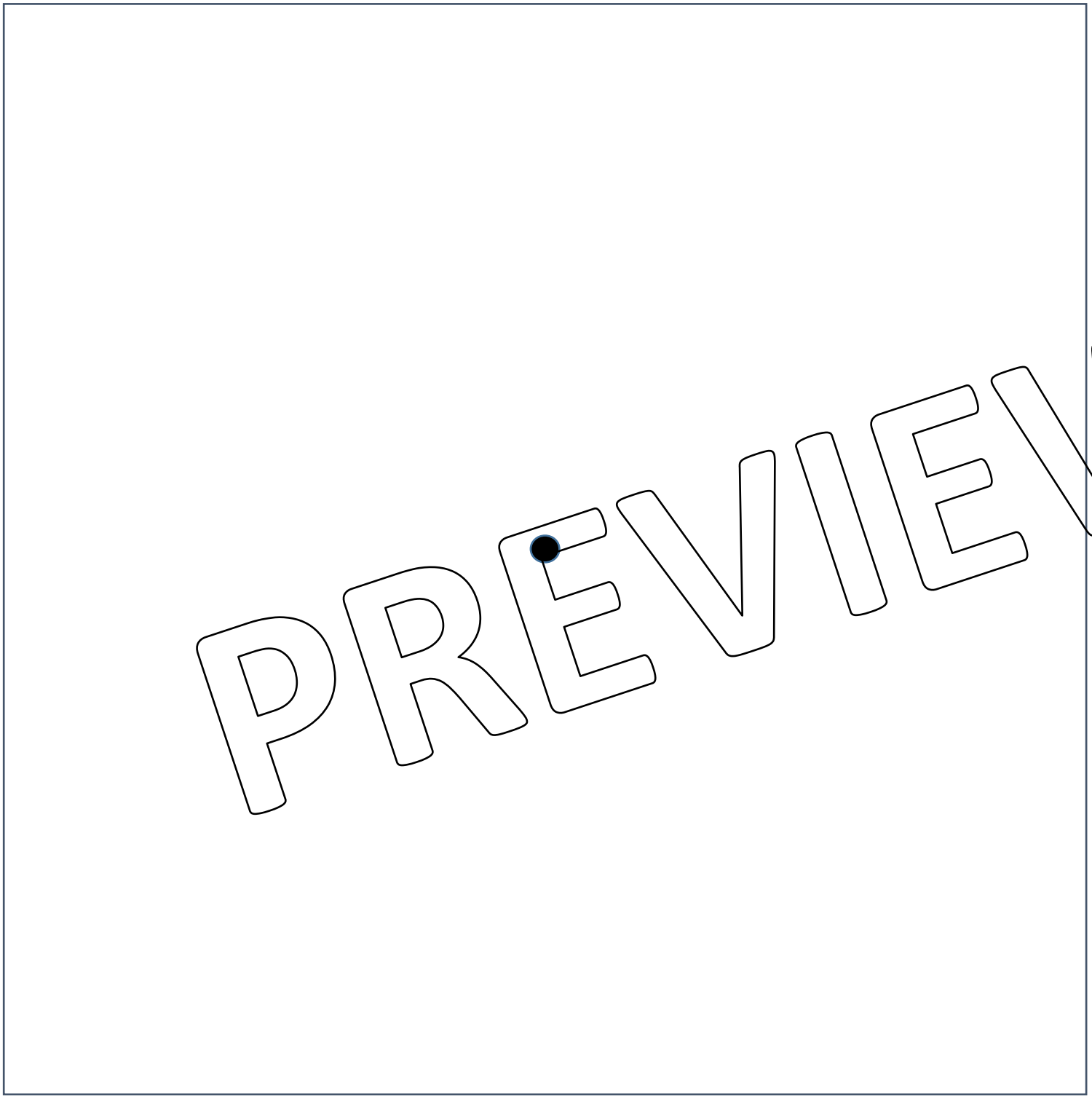


Shapes can have different numbers of lines of symmetry.



The number of congruent sides a shape has tells you the number of lines of symmetry a shape has. A square has four congruent sides so it has four lines of symmetry.

0 lines of symmetry	1 line of symmetry	2 + lines of symmetry
J	M	I



Extension Activities

1. Look at all of the letters and numbers. Sort them into two groups. Group 1 = numbers and letters with lines of symmetry. Group 2 = numbers and letters without lines of symmetry.
2. Look at the numbers and letters in Group 1. Draw the lines of symmetry on the cards.
3. Create your own words that have lines of symmetry.

Extension Activities

1. Look at all of the letters and numbers. Sort them into two groups. Group 1 = numbers and letters with lines of symmetry. Group 2 = numbers and letters without lines of symmetry.
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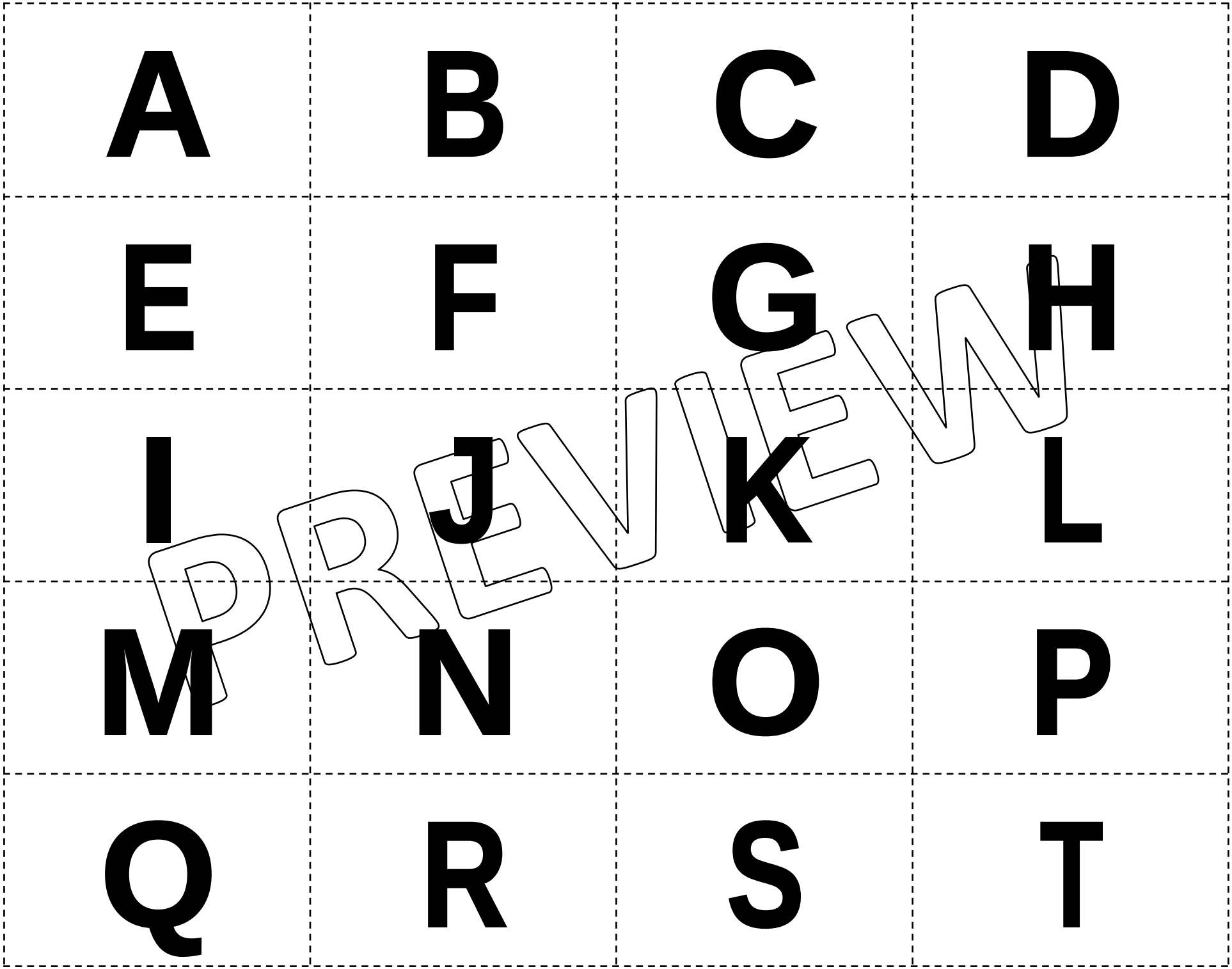
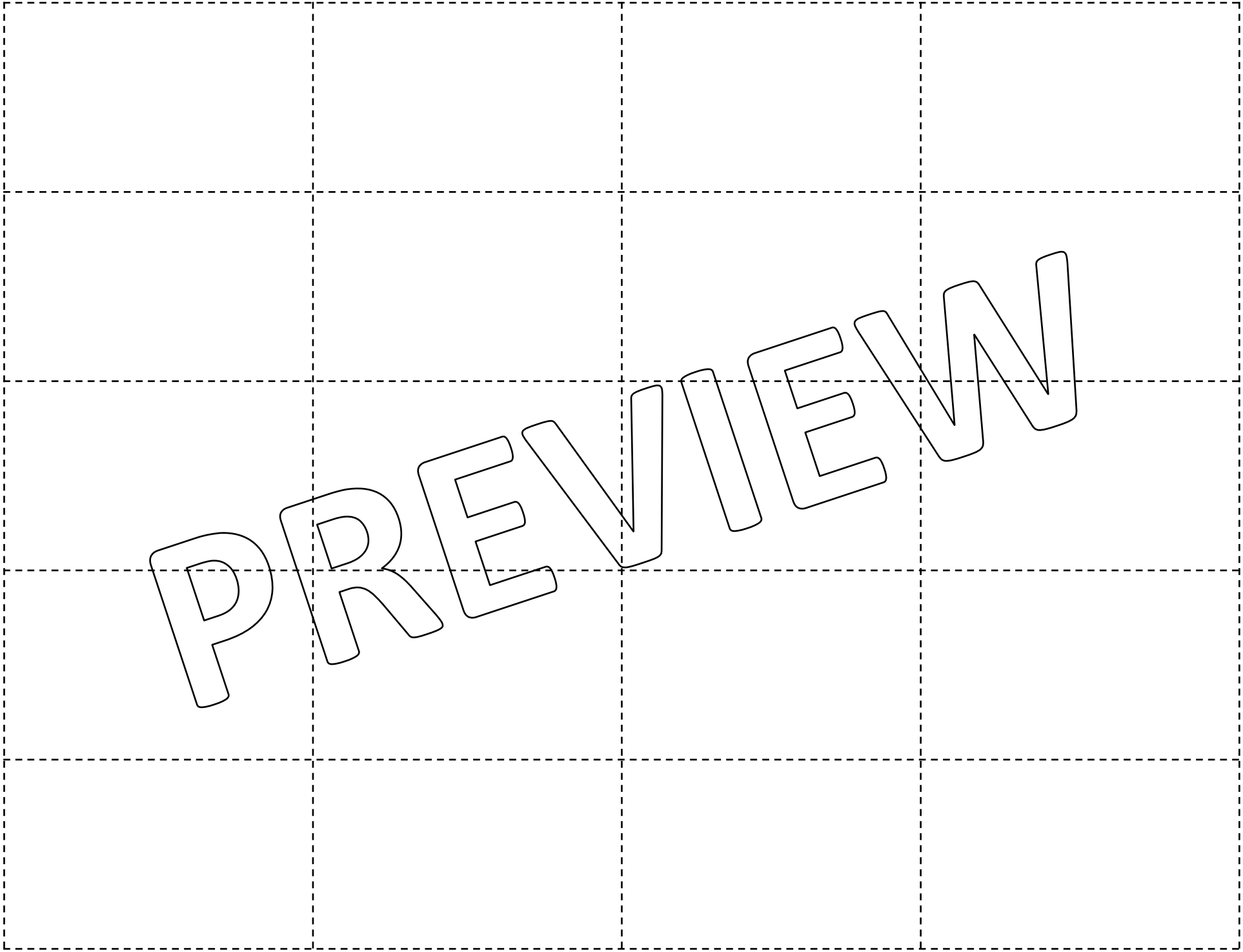


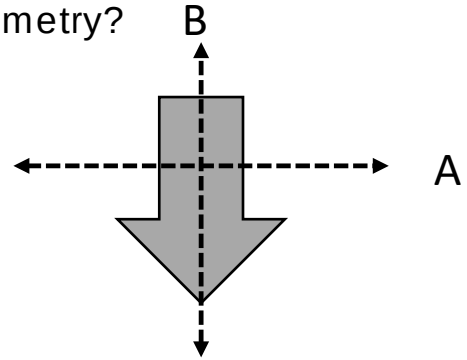
U	V	W	X
Y	Z	0	I
2	3	4	5
6	7	8	9
I0	II	I2	I3



Lines of Symmetry – Extension Card Template

Quick Check Problems

1. What line shows a line of symmetry?



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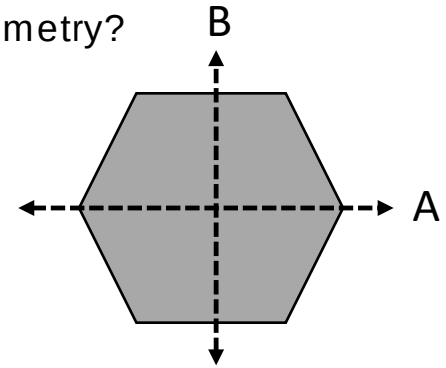
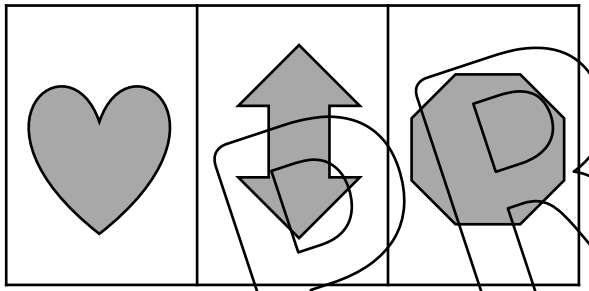
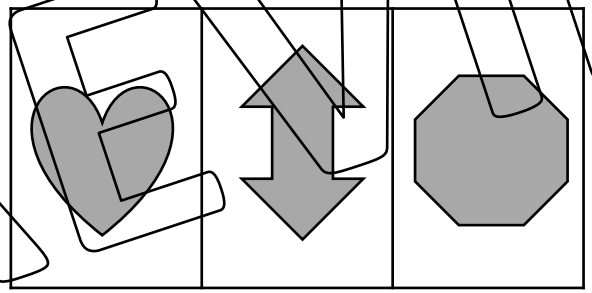


3. Which shape has just 1 line of symmetry?



4. Which shape has more than 2 lines of symmetry?



5. Marshall said the following letter has zero lines of symmetry. Is he right? Explain.

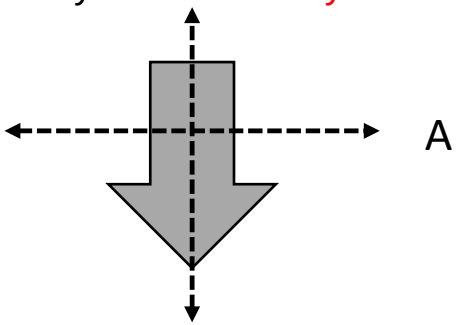
G

5. Andy said the following letter has just line of symmetry. Is he right? Explain.

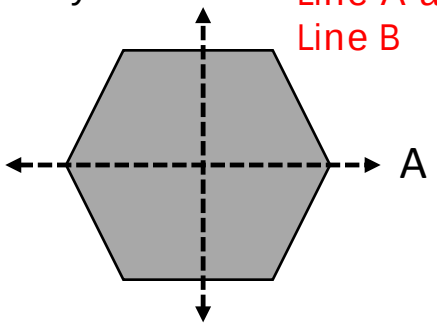
H

Quick Check Problems - Key

1. What line shows a line of symmetry? Only line B



1. What line shows a line of symmetry? Line A and Line B



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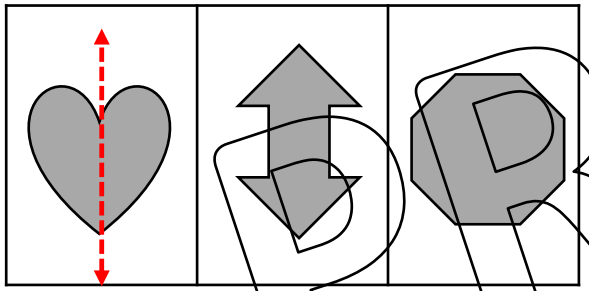

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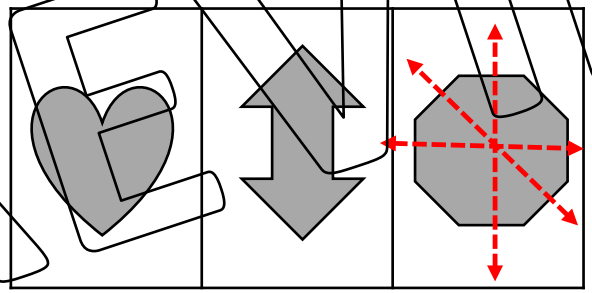
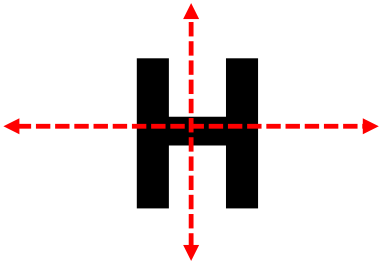


5. Marshall said the following letter has zero lines of symmetry. Is he right? Explain. He is correct. You can't draw a line that would create the same size and shape on either side of the line.

G

5. Andy said the following letter has just line of symmetry. Is he right? Explain. This shape has two lines of symmetry.



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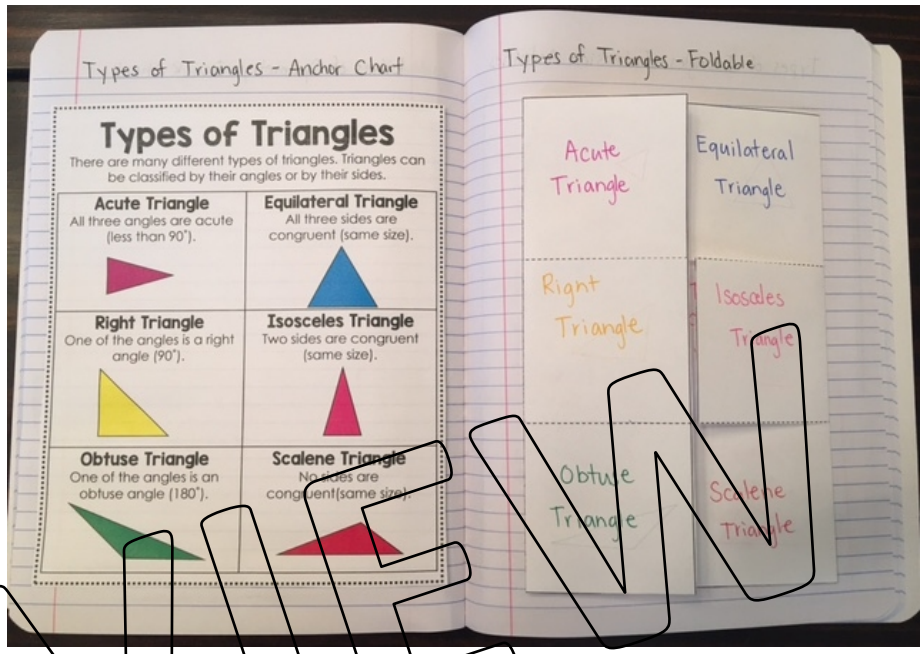

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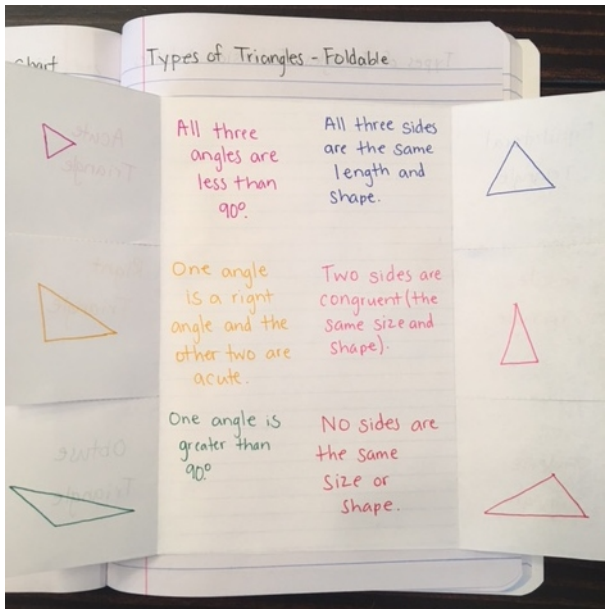

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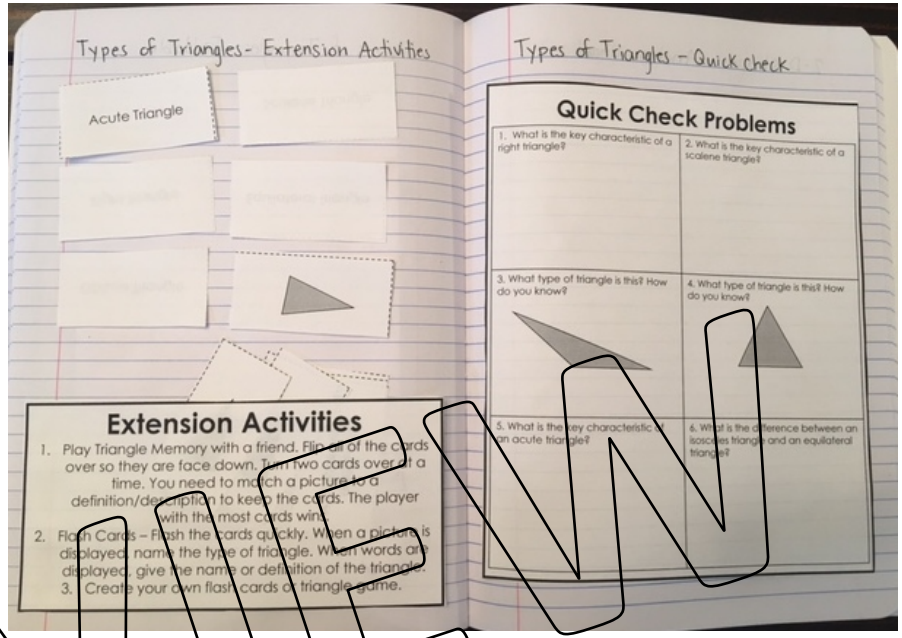

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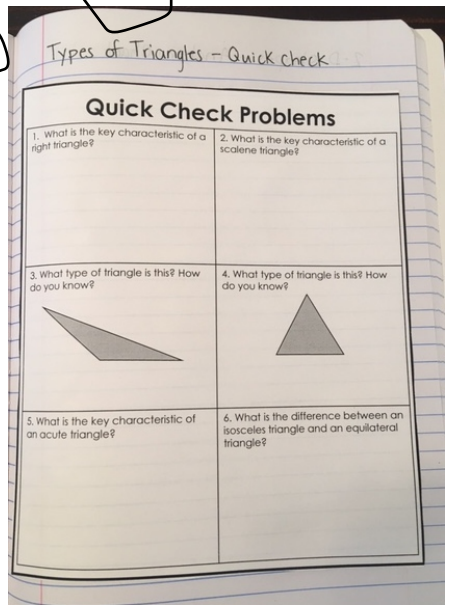

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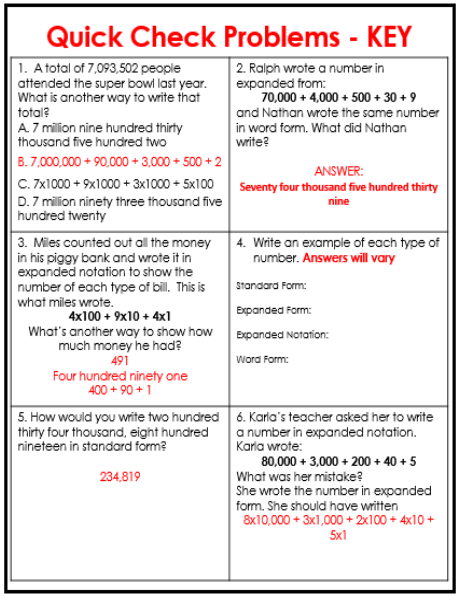
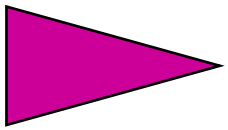


Types of Triangles

There are many different types of triangles. Triangles can be classified by their angles or by their sides.

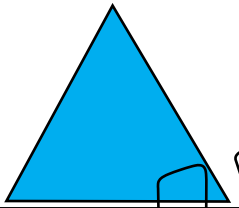
Acute Triangle

All three angles are acute (less than 90˚).



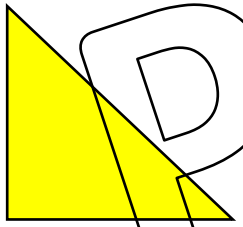
Equilateral Triangle

All three sides are congruent (same size).



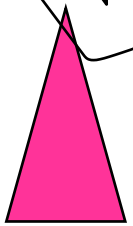
Right Triangle

One of the angles is a right angle (90˚).



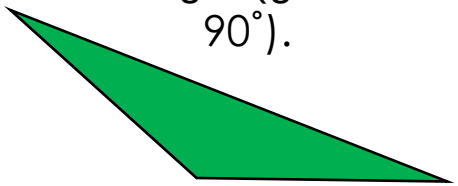
Isosceles Triangle

Two sides are congruent (same size).



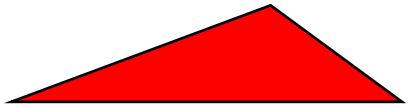
Obtuse Triangle

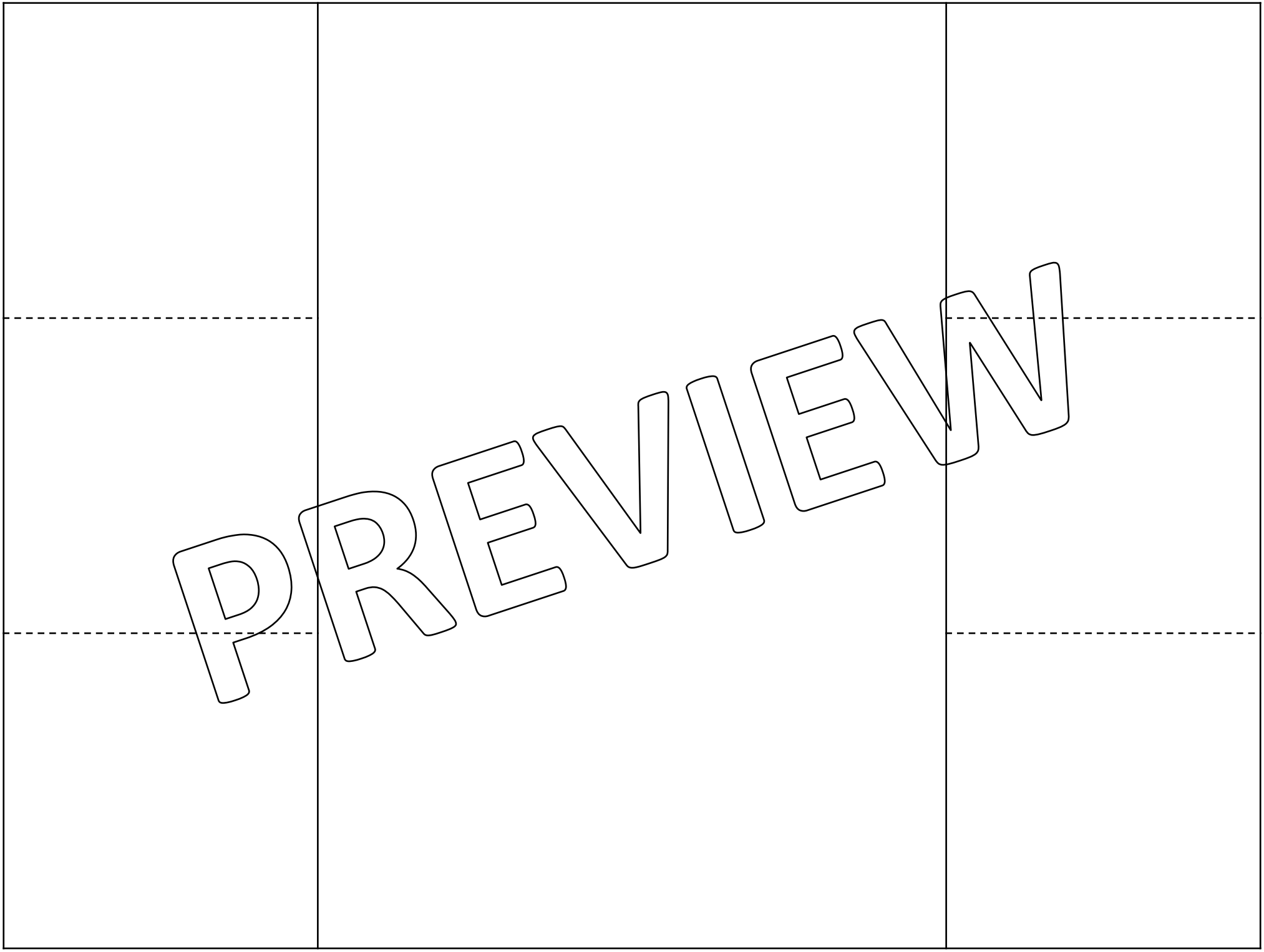
One of the angles is an obtuse angle (greater than 90˚).



Scalene Triangle

No sides are congruent(same size).





Types of Triangles – Foldable

Extension Activities

1. Play Triangle Memory with a friend. Flip all of the cards over so they are face down. Turn two cards over at a time. You need to match a picture to a definition/description to keep the cards. The player with the most cards wins.
2. Flash Cards – Flash the cards quickly. When a picture is displayed, name the type of triangle. When words are displayed, give the name or definition of the triangle.
3. Create your own flash cards or triangle game.

Extension Activities

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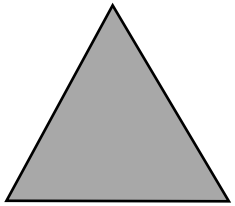
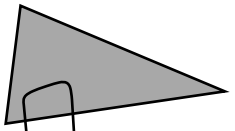
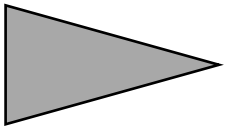
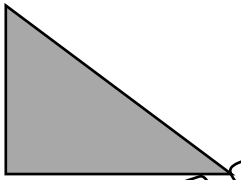
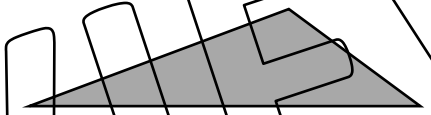
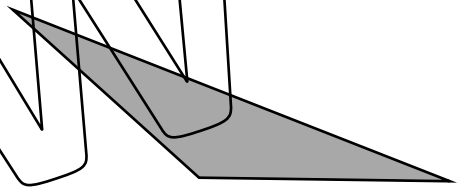
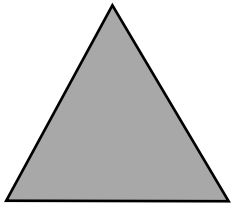
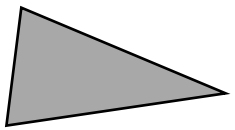
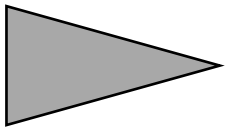
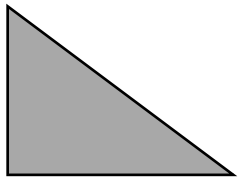
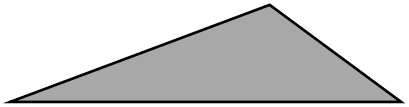
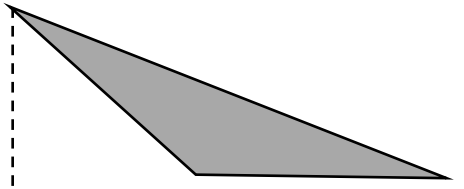
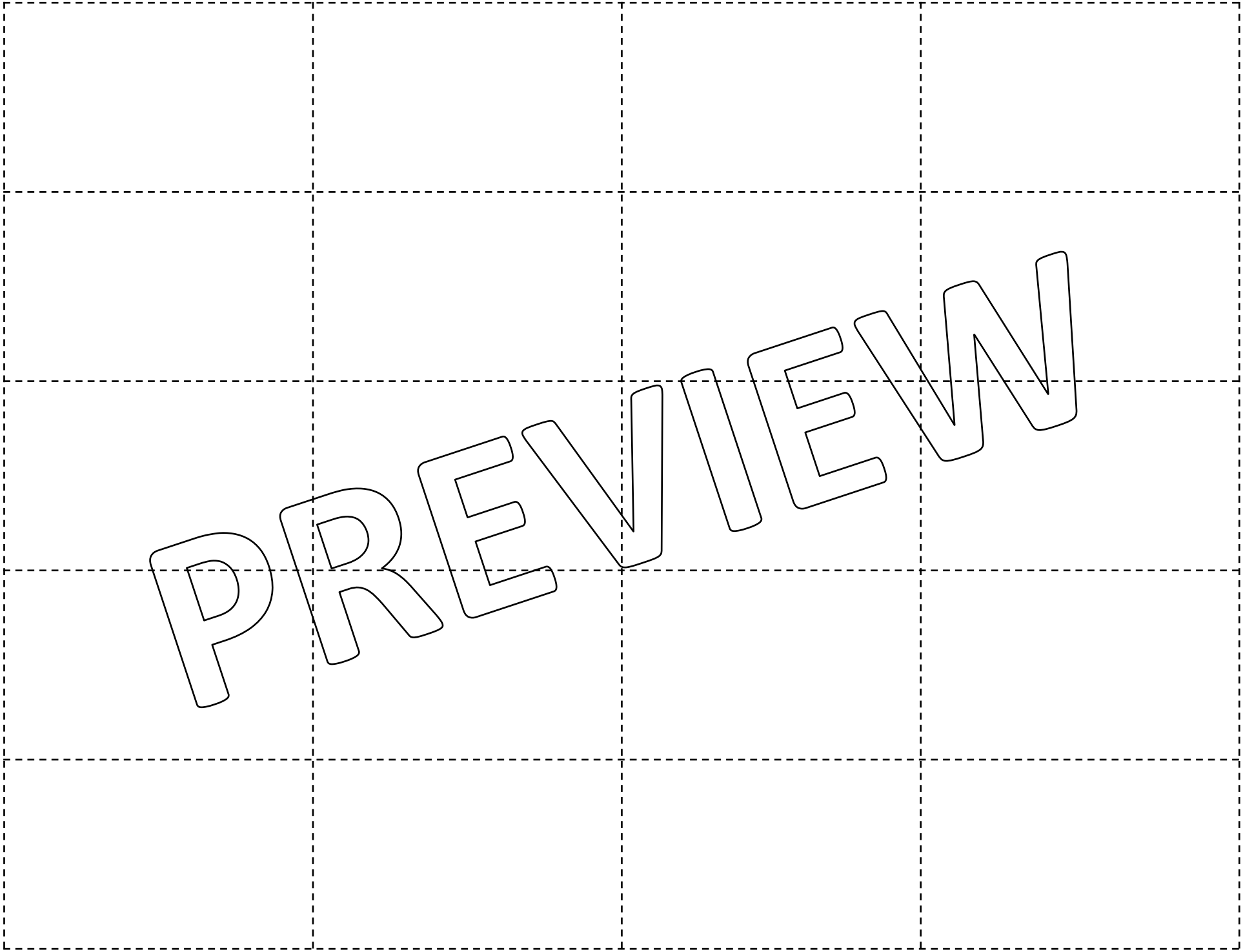
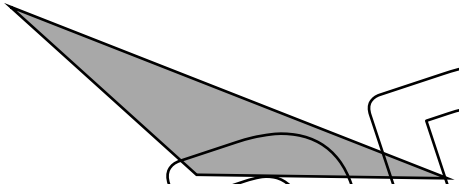
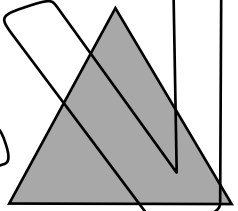
Acute Triangle	Right Triangle	Obtuse Triangle	Scalene Triangle
Equilateral Triangle	Isosceles Triangle		
			
A triangle where all angles are less than 90˚.	A triangle with one 90˚ angle.	A triangle with one angle larger than 90˚.	A triangle with three equal sides.
A triangle with only two equal sides.	A triangle with no equal sides.		
			

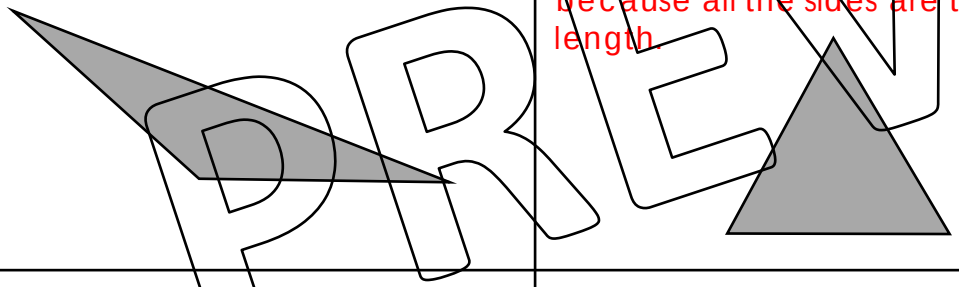


Types of Triangles – Extension Card Template

Quick Check Problems

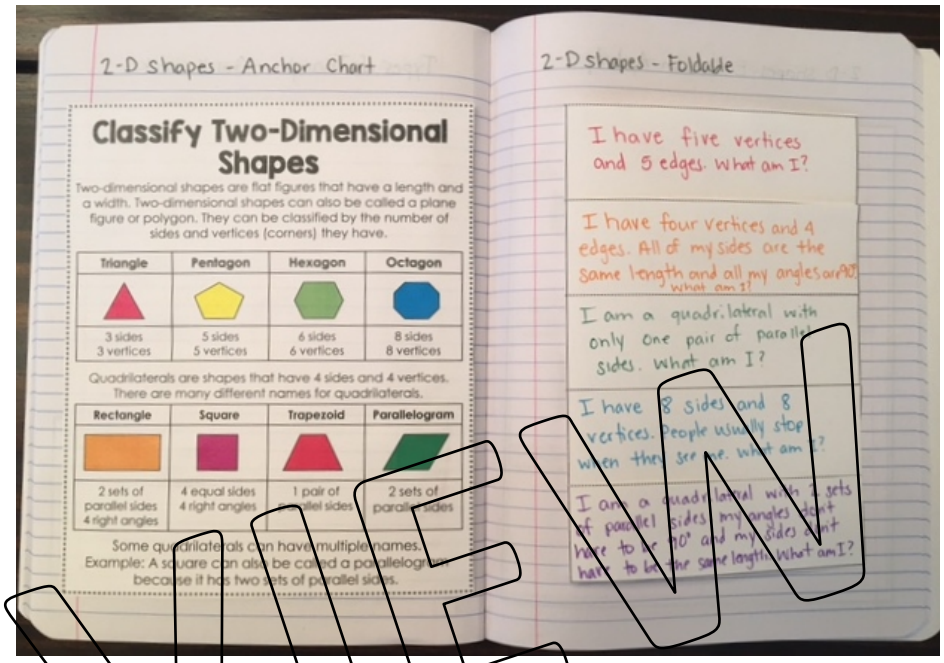
1. What is the key characteristic of a right triangle?	2. What is the key characteristic of a scalene triangle?
3. What type of triangle is this? How do you know? 	4. What type of triangle is this? How do you know? 
5. What is the key characteristic of an acute triangle?	6. What is the difference between an isosceles triangle and an equilateral triangle?

Quick Check Problems - KEY

1. What is the key characteristic of a right triangle? One of the angles is exactly 90˚.	2. What is the key characteristic of a scalene triangle? None of the sides are the same length.
3. What type of triangle is this? How do you know? It is an obtuse angle because it has one angle larger than 90˚ 	4. What type of triangle is this? How do you know? It is an acute triangle, because all the angles are less than 90˚. It is an equilateral triangle because all the sides are the same length.
5. What is the key characteristic of an acute triangle? All the angles have to be less than 90˚.	6. What is the difference between an isosceles triangle and an equilateral triangle? An isosceles triangle has two sides that are the same length. An equilateral triangle has all the sides that are the same length.

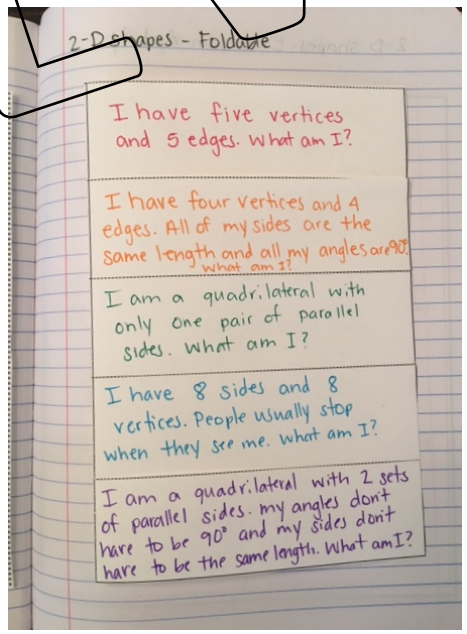
Classify Two-Dimensional Shapes – Assembly Notes & Directions

Anchor Chart
Make enough copies for students. Have students cut and paste in their math journal. Review anchor chart with students as you would a full size anchor chart. Students will be able to reference back to this page if they have questions about place value.

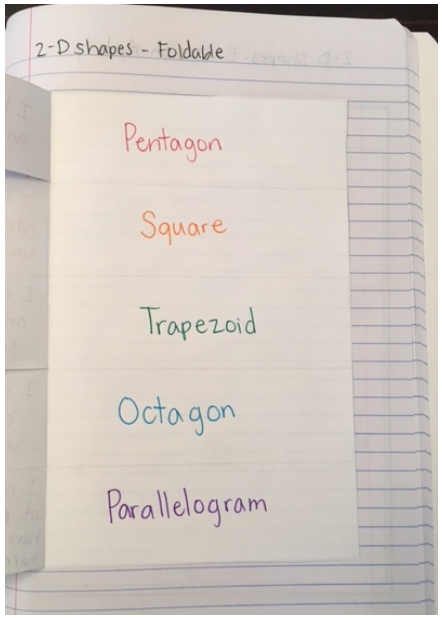


Foldable
See the example provided in the pictures to the right. Create foldable with students. You can modify the examples to meet your students specific learning needs.

Foldable - Outside



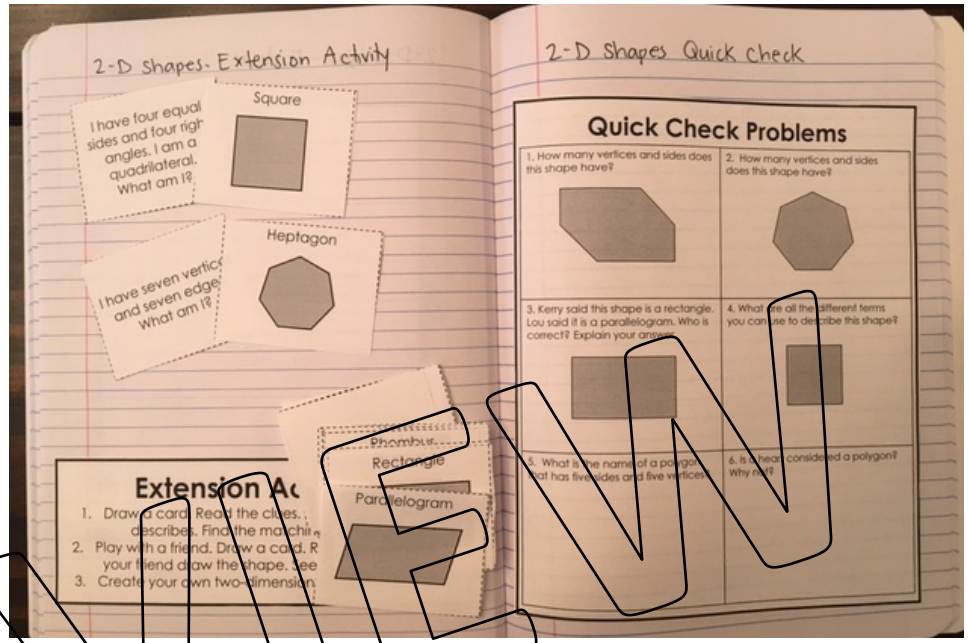
Foldable - Inside



Classify Two-Dimensional Shapes – Assembly Notes & Directions

Extension Activities

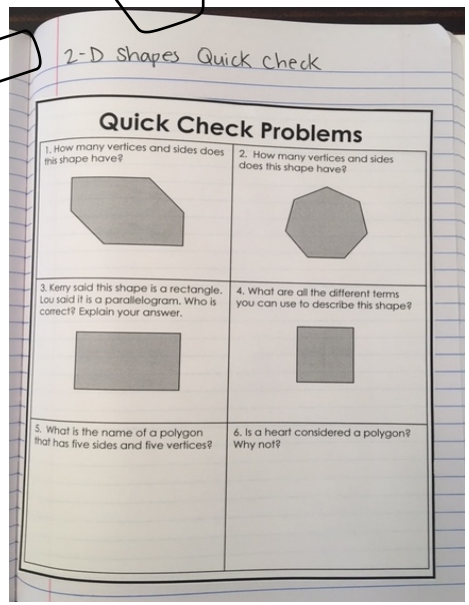
Give each student a copy of the Extension Activities list to place in their journal as well as a copy of the extension cards. Have students glue a small envelope into their math journal to store their extension cards. You can use the activities as an extension activity, early finisher work, or homework.



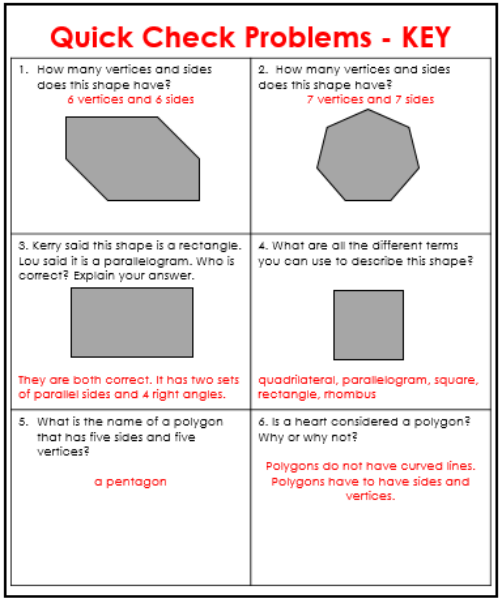
Quick Check

Give each student a copy of the Quick Check sheet. Students can glue them in their math journal as a reference page, or you can collect them. The quick check can be used as a formative assessment to see where your students level of mastery is after you have spent a few days practicing the skill.

Quick Check

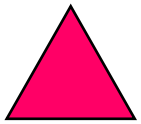
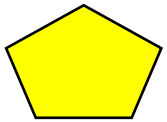
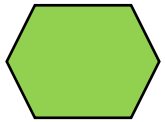


Quick Check - Key

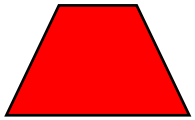
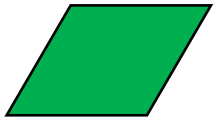


Classify Two-Dimensional Shapes

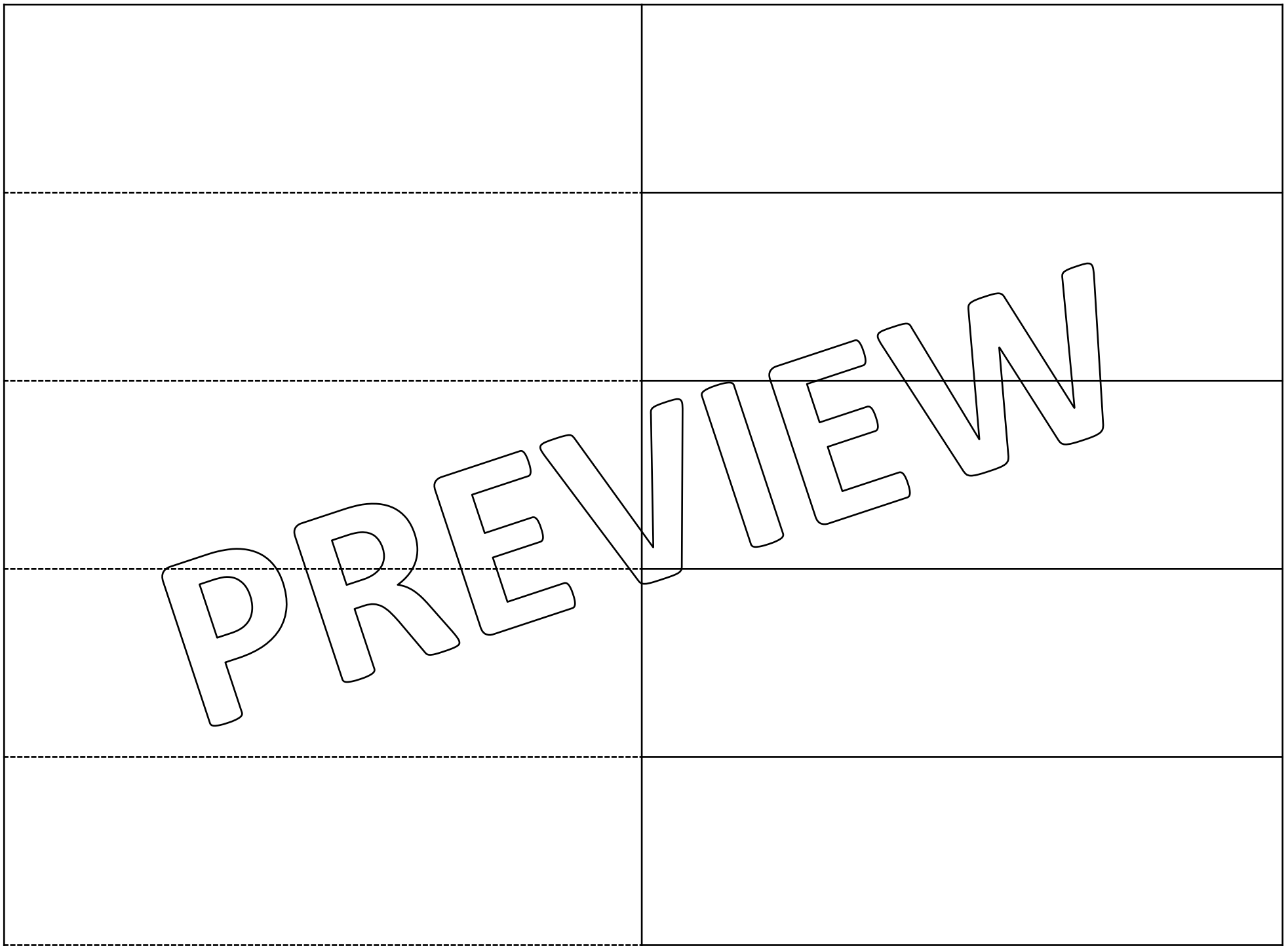
Two-dimensional shapes are flat figures that have a length and a width. Two-dimensional shapes can also be called a plane figure or polygon. They can be classified by the number of sides and vertices (corners) they have.

Triangle	Pentagon	Hexagon	Octagon
			
3 sides 3 vertices	5 sides 5 vertices	6 sides 6 vertices	8 sides 8 vertices

Quadrilaterals are shapes that have 4 sides and 4 vertices. There are many different names for quadrilaterals.

Rectangle	Square	Trapezoid	Parallelogram
			
2 sets of parallel sides 4 right angles	4 equal sides 4 right angles	1 pair of parallel sides	2 sets of parallel sides

Some quadrilaterals can have multiple names.
Example: A square can also be called a parallelogram because it has two sets of parallel sides.



Classify Two-Dimensional Shapes – Foldable

Extension Activities

1. Draw a card. Read the clues. Name the polygon it describes. Find the matching picture card.
2. Play with a friend. Draw a card. Read the clues, have your friend draw the shape. See if they are correct.
3. Create your own two-dimensional shape clue cards.

Extension Activities

1. Draw a card. Read the clues. Name the polygon it describes. Find the matching picture card.
2. Play with a friend. Draw a card. Read the clues, have your friend draw the shape. See if they are correct.
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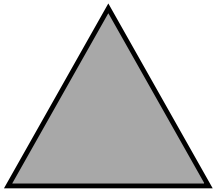
Extension Activities

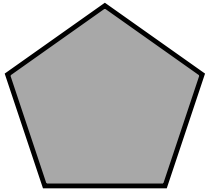
1. Draw a card. Read the clues. Name the polygon it describes. Find the matching picture card.
2. Play with a friend. Draw a card. Read the clues, have your friend draw the shape. See if they are correct.
3. Create your own two-dimensional shape clue cards.

I have three vertices and three edges. What am I?	I have five vertices and five edges. What am I?	I have six vertices and six edges. What am I?	I have eight vertices and eight edges. What am I?
I have seven vertices and seven edges. What am I?	I am a quadrilateral. I have four right angles and two sets of parallel sides. What am I?	I have four equal sides and four right angles. I am a quadrilateral. What am I?	I am a quadrilateral with two sets of parallel sides. What am I?
I am a polygon. I have one set of parallel sides. I am a quadrilateral. What am I?	I am any polygon with exactly four sides. What am I?	I am a quadrilateral. I have two sets of parallel lines. I have no right angles. What am I?	I have three vertices and three sides. One of my angles is a right angle. What am I?
I am a two-dimensional shape, but I am not a polygon because I have no vertices and no straight edges. What am I?	I have 10 vertices and 10 edges. What am I?		

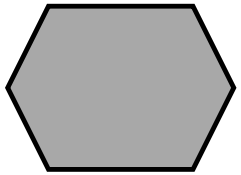
Triangle



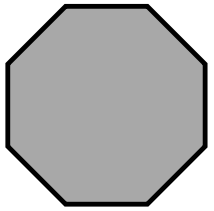
Pentagon



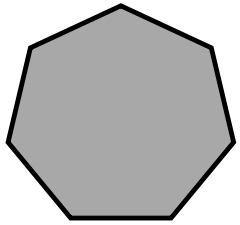
Hexagon



Octagon

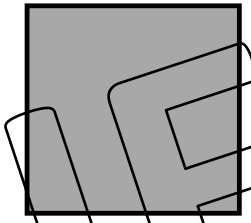


Heptagon

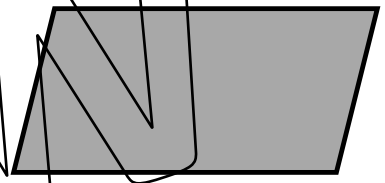


Rectangle

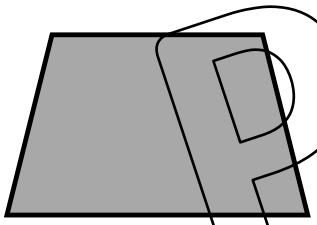
Square



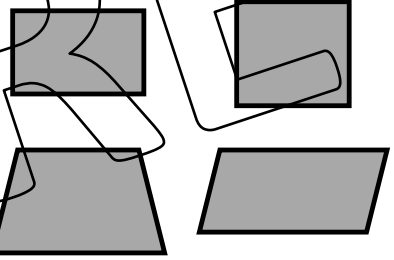
Parallelogram



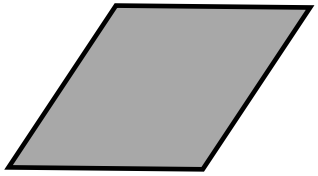
Trapezoid



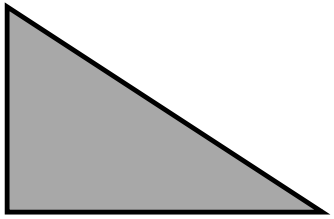
Quadrilateral



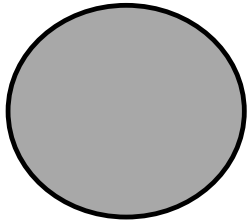
Rhombus



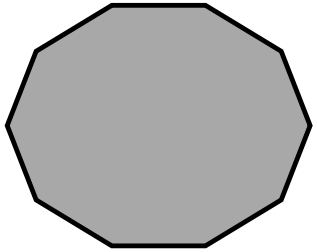
Right Triangle

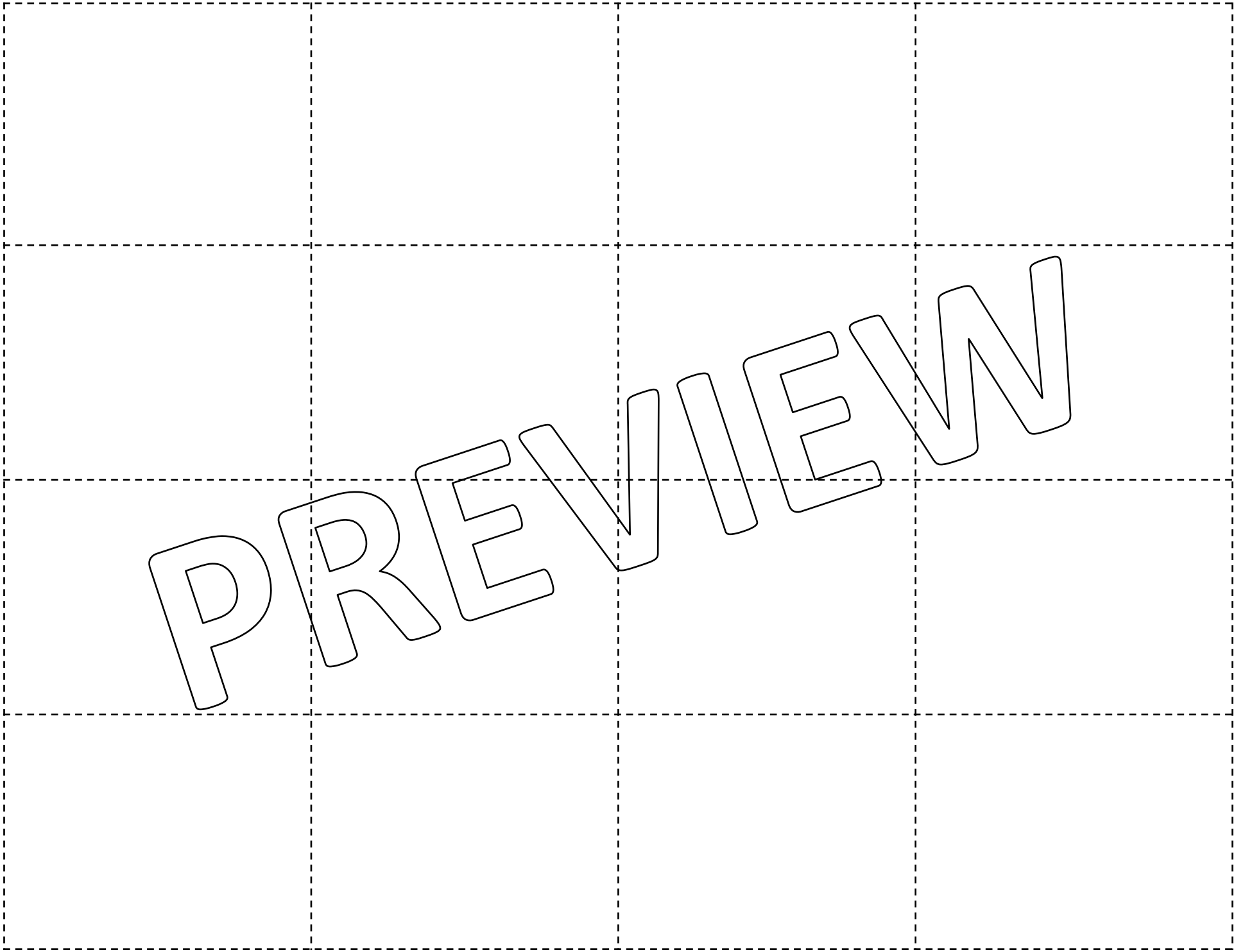


Circle



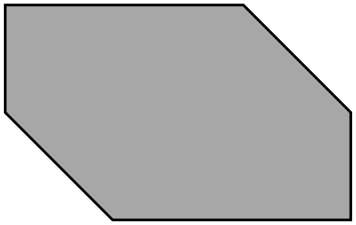
Decagon



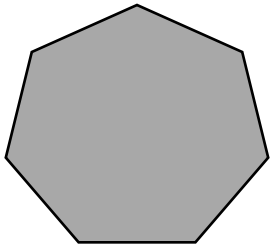

PREVIEW

Quick Check Problems

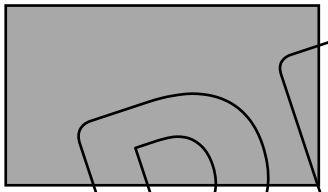
1. How many vertices and sides does this shape have?



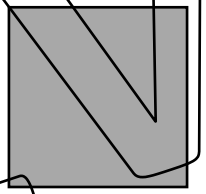
2. How many vertices and sides does this shape have?



3. Kerry said this shape is a rectangle. Lou said it is a parallelogram. Who is correct? Explain your answer.



4. What are all the different terms you can use to describe this shape?



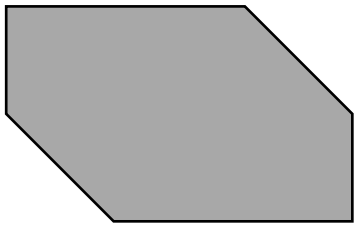
5. What is the name of a polygon that has five sides and five vertices?

6. Is a heart considered a polygon? Why not?

Quick Check Problems - KEY

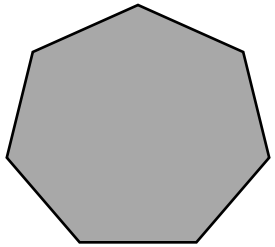
1. How many vertices and sides does this shape have?

6 vertices and 6 sides



2. How many vertices and sides does this shape have?

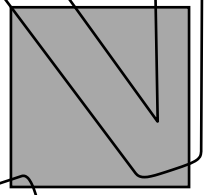
7 vertices and 7 sides



3. Kerry said this shape is a rectangle. Lou said it is a parallelogram. Who is correct? Explain your answer.

They are both correct. It has two sets of parallel sides and 4 right angles.

4. What are all the different terms you can use to describe this shape?



quadrilateral, parallelogram, square, rectangle, rhombus

5. What is the name of a polygon that has five sides and five vertices?

a pentagon

6. Is a heart considered a polygon? Why or why not?

Polygons do not have curved lines. Polygons have to have sides and vertices.

Thank You!

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