Size, Shape, and Symmetry

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# Measurement Benchmarks

Use a ruler, a yardstick, and a meter stick to find objects that are about as long as these measurement units. Record what you find.

<table>
<thead>
<tr>
<th>Centimeter</th>
<th>Inch</th>
<th>Foot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: the tip of my pencil</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Yard</th>
<th>Meter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Example: the height of the wall from the floor to the board</td>
</tr>
</tbody>
</table>
# Using Measurement Benchmarks and Measurement Tools

<table>
<thead>
<tr>
<th>Object</th>
<th>Estimate</th>
<th>Actual Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of my pencil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width of my pencil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height of my desk from the floor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length of my notebook</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width of the classroom window</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My teacher’s height</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Factors and Products

Fill in the chart below with the missing factors or products. Can you solve these mentally?

<table>
<thead>
<tr>
<th>Factor</th>
<th>( \times )</th>
<th>Factor</th>
<th>( = )</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 6</td>
<td>( \times )</td>
<td>30</td>
<td>( = )</td>
<td>_______</td>
</tr>
<tr>
<td>2. 12</td>
<td>( \times )</td>
<td>50</td>
<td>( = )</td>
<td>_______</td>
</tr>
<tr>
<td>3. 9</td>
<td>( \times )</td>
<td>_______</td>
<td>( = )</td>
<td>270</td>
</tr>
<tr>
<td>4. 5</td>
<td>( \times )</td>
<td>_______</td>
<td>( = )</td>
<td>300</td>
</tr>
<tr>
<td>5. 7</td>
<td>( \times )</td>
<td>80</td>
<td>( = )</td>
<td>_______</td>
</tr>
<tr>
<td>6. 11</td>
<td>( \times )</td>
<td>_______</td>
<td>( = )</td>
<td>220</td>
</tr>
<tr>
<td>7. 8</td>
<td>( \times )</td>
<td>60</td>
<td>( = )</td>
<td>_______</td>
</tr>
<tr>
<td>8. 10</td>
<td>( \times )</td>
<td>_______</td>
<td>( = )</td>
<td>340</td>
</tr>
<tr>
<td>9. 80</td>
<td>( \times )</td>
<td>4</td>
<td>( = )</td>
<td>_______</td>
</tr>
</tbody>
</table>

**NOTE** Students practice multiplying and dividing multiples of 10.

SMH 37–38
When and How Do You Measure Length?

Ask an adult to tell you about at least four situations in which he or she measures. Write each situation in one of the boxes. Answer the following questions about each situation.

• Did you need to measure exactly or estimate?
• If you estimated, how did you estimate?
• What tools did you use?

Situation 1:  

Situation 2:  

Situation 3:  

Situation 4:  

NOTE Students think about when measurement is used in the real world by adults.

SMH 101-102
Multiplication Problems

Solve each of the problems below. Show your thinking.

1. \(22 \times 6 = \) 
2. \(40 \times 14 = \) 

3. \(4 \times 29 = \) 
4. \(36 \times 5 = \) 

5. \(8 \times 26 = \) 
6. \(12 \times 31 = \)
How Tall Is an Adult?

1. Measure the height of an adult outside of class and then record it. You can record it in feet and inches or in centimeters.

2. Describe what tools you used and how you used the tools to measure the adult.
Perimeter Problems (page 1 of 2)

1. Estimate, and then find the perimeter of the objects listed below. Choose your own objects for the blank spaces.

<table>
<thead>
<tr>
<th>Object</th>
<th>Unit of Measure (inches, feet, yards, centimeters, or meters)</th>
<th>Estimate</th>
<th>Actual Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your classroom door</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your teacher’s desk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The board</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Parenmeter Problems (page 2 of 2)

2. Choose one of your perimeter measurements. Estimate and measure it again using another unit.

3. Explain why the two measurements of the same perimeter are different.
What Should We Do with the Extras?

Solve the problems below. Make sure to keep track of all the steps that you take. Write equations to show the steps of your solution.

1. Noemi is building toy cars. She bought a box of 50 wheels to use on the cars. How many cars can she build with the 50 wheels? How many wheels will she have left?

   Division Equation: _______ ÷ _______ = _______  Answer: _________

2. Steve, Jill, Lucy, Ursula, and Terrell earned $106 by raking leaves. They want to share the money equally among the five of them. How much money will each of the friends receive?

   Division Equation: _______ ÷ _______ = _______  Answer: _________

3. Juice boxes come in packages of six. The fourth graders at the Glendale School need 82 juice boxes for their field trip to the art museum. How many packages of juice boxes will they have to buy? Explain your answer.

   Division Equation: _______ ÷ _______ = _______  Answer: _________
Measuring Ribbon

Solve each problem and explain how you did it.

1. Marisol is measuring one piece of ribbon. She will cut it into 17 pieces that are each 9 inches long. How many inches long will the whole piece be?

   How did you solve it?

2. Sabrina is also measuring a piece of ribbon. She needs 22 pieces that are each 13 inches long. How long will her piece of ribbon be?

3. Bill has a piece of ribbon that is 144 inches long. He needs pieces that are 12 inches long. How many pieces can he cut?
Mapping 100 Feet

1. What tools did you use to map a path of 100 feet?

2. Draw your path.

3. What was the most challenging part of mapping out 100 feet?
Size, Shape, and Symmetry

Explaining Measurement Differences

1. Record all of the measurements your class found for the length of the classroom.

2. What is one of the smallest measurements? __________

3. Why did some people get smaller measurements?

4. What is one of the largest measurements? __________

5. Why did some people get larger measurements?
Handy Measure

If you spread out your hand, the length from your little finger to your thumb is your hand span. It is a handy measuring tool.

1. Use your hand span to measure four items. List the items and the length of each in spans.

<table>
<thead>
<tr>
<th>Item</th>
<th>Number of Spans</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. How can you estimate length in inches if you know the length of your hand span in inches?

Ongoing Review

3. Which of these units of measure would be best for measuring a raisin?

   A. foot  B. centimeter  C. meter  D. inch
Missing Measures

Imagine that each polygon below is the shape of a farmer’s field. For each polygon, find the missing measure to complete the perimeter.

1. The perimeter of this field is 702 yards. 
The missing measure is __________.

2. The perimeter of this field is 581 meters. 
The missing measure is __________.

Ongoing Review

3. Which unit of measure below would be best for measuring the perimeter of your backyard?
   
   A. centimeter  B. foot  C. inch  D. meter
Polygons, Not Polygons

These are polygons.

These are not polygons.
Is It a Polygon?

1. 

2. 

3. 

4. 

5. 

6. 

7. 

8. 

9. 

10. 

11. 

12. 

Size, Shape, and Symmetry
Find the Polygons

Is each shape a polygon? Write yes or no on the line.

1. ______
2. ______
3. ______
4. ______
5. ______
6. ______

7. Draw two of each shape in the box below.

<table>
<thead>
<tr>
<th>Polygons</th>
<th>Not Polygons</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ongoing Review

8. Which figure is a triangle?

A. B. C. D.
Making Polygons  (page 1 of 2)

Follow these directions to make new polygons from two or more Power Polygons™. Trace each new polygon. Draw dotted lines to show the sides of the Power Polygons that you used and write the letter of each Power Polygon inside.

1. Make 3 three-sided shapes. Make them as different from one another as you can.

2. Make 3 four-sided shapes. Make them as different from one another as you can.
Making Polygons  (page 2 of 2)

Follow these directions to make new polygons from two or more Power Polygons. Trace each new polygon. Draw dotted lines to show the sides of the Power Polygons that you used and write the letter of each Power Polygon inside.

3. Make 2 different five-sided shapes.

4. Make 2 different six-sided shapes.
Names for Polygons

On the chart, write some words that have prefixes (like “tri” for triangle) that match the prefixes in the names for polygons. You do not have to fill in something for every polygon name.

<table>
<thead>
<tr>
<th>Number of Sides</th>
<th>Name of Polygon</th>
<th>Words with the Same Prefix</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Triangle</td>
<td>Example: triathlon (a race with 3 parts)</td>
</tr>
<tr>
<td>4</td>
<td>Quadrilateral</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Pentagon</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Hexagon</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Heptagon or Septagon</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Octagon</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Nonagon</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Decagon</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Hendecagon</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Dodecagon</td>
<td></td>
</tr>
</tbody>
</table>
Division Stories

Write a division equation for each problem. Then, solve each problem and show your work.

1. A case of juice holds 108 cans. How many six-packs of juice does the case hold?

2. Mrs. Santos has 112 oranges. She wants to pack them into bags with 8 oranges in each bag. How many bags does she need?

3. Mr. Harris's class counted around the class by 20s. The number they ended on was 400. How many students counted?
# Sorting Polygons

Record at least 3 rules that you and your partner made for polygons when you played *Guess My Rule*. For each rule, write the numbers of the Shape Cards that fit the rule, and the numbers of 2 or 3 Shape Cards that did not fit the rule. (You may record more than 3 rules, or use this same sheet for another game.)

<table>
<thead>
<tr>
<th>Rule</th>
<th>Polygons That Fit the Rule</th>
<th>Polygons That Do Not Fit the Rule</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Making More Polygons (page 1 of 2)

Follow these directions to make new polygons from two or more Power Polygons. Trace each new polygon. Draw dotted lines to show the sides of the Power Polygons that you used and write the letter of each Power Polygon inside.

1. Make two different shapes that have 7 sides.

2. Make two different shapes that have 8 sides.
Making More Polygons (page 2 of 2)

Follow these directions to make new polygons from two or more Power Polygons. Trace each new polygon. Draw dotted lines to show the sides of the Power Polygons that you used and write the letter of each Power Polygon inside.

3. Make two different shapes that have 9 sides.

4. Make two different shapes that have 10 sides.
## Division Practice (page 1 of 2)

Solve each division problem below. Then write the related multiplication combination.

<table>
<thead>
<tr>
<th>Division Problem</th>
<th>Multiplication Combination</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. $54 \div 6 =$</td>
<td>$\underline{9} \times \underline{6} =$</td>
</tr>
<tr>
<td>2. $77 \div 11 =$</td>
<td>$\underline{7} \times \underline{11} =$</td>
</tr>
<tr>
<td>3. $56 \div 7 =$</td>
<td>$\underline{8} \times \underline{7} =$</td>
</tr>
<tr>
<td>4. $108 \div 9 =$</td>
<td>$\underline{12} \times \underline{9} =$</td>
</tr>
<tr>
<td>5. $63 \div 7 =$</td>
<td>$\underline{9} \times \underline{7} =$</td>
</tr>
</tbody>
</table>

**NOTE** Students review division problems that are related to the multiplication combinations they know.
Division Practice (page 2 of 2)

Solve each division problem below. Then write the related multiplication combination.

<table>
<thead>
<tr>
<th>Division Problem</th>
<th>Multiplication Combination</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. 81 ÷ 9 = _____</td>
<td>_____ × _____ = _____</td>
</tr>
<tr>
<td>7. 72 ÷ 8 = _____</td>
<td>_____ × _____ = _____</td>
</tr>
<tr>
<td>8. 144 ÷ 12 = _____</td>
<td>_____ × _____ = _____</td>
</tr>
<tr>
<td>9. 6)42</td>
<td>_____ × _____ = _____</td>
</tr>
<tr>
<td>10. 11)132</td>
<td>_____ × _____ = _____</td>
</tr>
</tbody>
</table>
Count the number of sides in each new polygon made from Power Polygon pieces. Write the name of each polygon. Is it a triangle, quadrilateral, pentagon, or hexagon?

1. Name of Polygon: 

2. Name of Polygon: 

3. Name of Polygon: 

4. Name of Polygon: 

NOTE Students practice identifying polygons by the number of sides.
5. Name of Polygon: __________

6. Name of Polygon: __________
All or Some Quadrilaterals

In these two columns, list attributes that are true for either all quadrilaterals or some quadrilaterals. Use the rules you made for Guess My Rule to help you.

<table>
<thead>
<tr>
<th>All Quadrilaterals</th>
<th>Some Quadrilaterals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Can You Make These Polygons? (page 1 of 3)

Make new polygons from two or more Power Polygons that fit each of the descriptions below. Trace each new polygon. Draw dotted lines to show the sides of the Power Polygons that you used and write the letter of each Power Polygon inside. For each description, try to make as many different polygons as you can.

1. It is a quadrilateral. All of its sides are the same length.

2. It is a quadrilateral. All of its angles are the same size. Not all of its sides are the same length.
Can You Make These Polygons? (page 2 of 3)

Make new polygons from two or more Power Polygons that fit each of the descriptions below. Trace each new polygon. Draw dotted lines to show the sides of the Power Polygons that you used and write the letter of each Power Polygon inside. For each description, try to make as many different polygons as you can.

3. It is a quadrilateral. All of its sides are the same length. Not all of its angles are the same size.

4. It is a quadrilateral. All of its angles are the same size.
Can You Make These Polygons? (page 3 of 3)

Make new polygons from two or more Power Polygons that fit each of the descriptions below. Trace each new polygon. Draw dotted lines to show the sides of the Power Polygons that you used and write the letter of each Power Polygon inside. For each description, try to make as many different polygons as you can.

5. It is a triangle. All of its sides are the same length.

6. It is a triangle. All of its angles are different sizes.
Mystery Rectangles

1. Draw a line from each Clue Card to the matching rectangle. One of the Clue Cards does not have a matching rectangle.

   **Clue Card 1**
   My length is twice as long as my width.

   **Clue Card 2**
   My length is 4 more than my width.

   **Clue Card 3**
   My perimeter is 28.

   **Clue Card 4**
   All my sides have the same length.

   **Clue Card 5**
   The sum of my length and width is a multiple of 10.

2. Which shapes are rectangles?
   A. M and N
   B. T and S
   C. S and O
   D. O and P

**Ongoing Review**
Today's Number: Broken Calculator

Find five solutions to each of these problems.

1. I want to make 36 using my calculator, but the 3 key and the 6 key are broken. How can I use my calculator to do this task?

2. I want to make 200 using my calculator, but the 0 key and the + key are broken. How can I use my calculator to do this task?

3. I want to make 64 using my calculator, but the 6 key and the 4 key are broken. How can I use my calculator to do this task?

4. I want to make 55 using my calculator, but the 5 key, the + key, and the − key are broken. How can I use my calculator to do this task?
Write the numbers of all the quadrilaterals that belong in each category.

1. Which quadrilaterals have 4 right angles?

2. Which quadrilaterals have 2 pairs of parallel sides?

3. Which quadrilaterals have 4 sides of equal length?

NOTE: Students practice identifying properties in quadrilaterals.
Draw a shape to prove that each statement below is false.

4. All rectangles are squares.

5. All quadrilaterals have at least one right angle.
Making Right Angles

Use the angles of two or more Power Polygons to make a right angle. Trace the polygons that you used and label each with its letter.

1. 

2. 

3. 

4. 

5. 

6.
Which Angles Are Right Angles?

In each of the polygons below, there is at least one right angle. Find all of the right angles in each polygon and label them with an “R.”

1.  

2.  

3.  

4.  

5.  

6.  

Ongoing Review

7. Suppose the arrow at the right is turned 90 degrees clockwise (right) three times. Which figure shows the new direction of the arrow?

A.  

B.  

C.  

D.  

NOTE Students identify right angles (90 degree angles).

SMH 111–112
A right angle is measured as 90 degrees. How many degrees is each of these angles? Use Power Polygons to help you answer each question. Explain your thinking and include any drawings that will make your idea clear.

1. How many degrees is this angle? How do you know?

2. How many degrees is this angle? How do you know?
3. How many degrees is this angle? How do you know?

4. How many degrees is this angle? How do you know?
Building Angles (page 1 of 3)

Use the angles of two or more Power Polygons to make the angles described. Trace the polygons that you used and label them with their letters.

1. a. Make an angle that measures 60 degrees.

   b. Explain how you know that this is a 60° angle.

   c. Can you make a 60° angle in more than one way? Explain.
Building Angles (page 2 of 3)

Use the angles of two or more Power Polygons to make the angles described. Trace the polygons that you used and label them with their letters.

2. a. Make an angle that measures 120 degrees.

b. Explain how you know that this is a 120° angle.

c. Can you make a 120° angle in more than one way? Explain.
Building Angles (page 3 of 3)

Use the angles of two or more Power Polygons to make the angles described. Trace the polygons that you used and label them with their letters.

3. a. Make an angle that measures 150 degrees.

b. Explain how you know that this is a 150° angle.

c. Can you make a 150° angle in more than one way? Explain.
Staying Fit

Solve the story problems below. Be sure to show your work and equations.

Marisol’s family decided to keep track of how much they exercised during April and May.

1. a. Marisol’s mother ran on 22 days in April. On each of those days, she ran 4 miles. How many miles did she run in April?

b. In May, she increased her daily distance to 5 miles, and ran 19 days that month. How many miles did she run in May?

2. At the end of April and May, Marisol calculated that she had walked 3 miles every day for those 61 days. How many miles did she walk in April and May?

3. Marisol’s father biked 190 miles in 5 days. He biked the same distance each day. How many miles did he bike each day?
Sorting Triangles

Write the numbers of all of the triangles that belong in each category. You may use the corner of a sheet of paper as a “right angle tester.”

1. Which triangles have a right angle?

2. Which triangles have 3 acute angles?

3. Which triangles have 1 obtuse angle?
Mystery Multiple Tower (page 1 of 2)

This is the top part of Anna’s Multiple Tower. Answer these questions about her tower.

1. What number did Anna count by? How do you know?

2. How many numbers are in Anna’s tower so far? How do you know?

3. Write a multiplication equation that represents how many numbers are in Anna’s Multiple Tower:

   \[ \_ \times \_ = \_ \]
4. What is the 10th multiple in Anna’s tower?

5. Imagine that Anna adds more multiples to her tower.
   a. What would be the 20th multiple in her tower?
      How do you know?

   b. What would be the 25th multiple in her tower?
      How do you know?
Measuring Angles

Use the corner of a sheet of paper as a 90-degree angle to help you measure each of the angles below. You may also fold the corner of another sheet of paper in half to make a 45-degree angle with which to measure. Match each angle to one of the measures in the box. One measure is used twice.

<table>
<thead>
<tr>
<th>30°</th>
<th>45°</th>
<th>60°</th>
<th>90°</th>
<th>120°</th>
<th>135°</th>
<th>150°</th>
</tr>
</thead>
</table>

1. Angle Measure: ________
2. Angle Measure: ________
3. Angle Measure: ________
4. Angle Measure: ________
5. Angle Measure: ________
6. Angle Measure: ________
7. Angle Measure: ________
8. Angle Measure: ________
Directions for Making a Design

Work in pairs to make a symmetrical design.

1. Make a horizontal line of symmetry across the center of M23, Triangle Paper. One side will be Player 1’s side; the other will be Player 2’s side. Work only on your own side of the line.

2. Player 1 places a shape on the triangle paper, touching the line of symmetry on one side.

3. Player 2 puts the same kind of shape in the mirror-image position on the other side of the line.

4. Player 2 places a new shape on the paper. The shape must touch either the line of symmetry or at least one corner or side of a shape already placed.

5. Player 1 puts a shape in the mirror-image position of Player 2’s shape.

6. Continue, until 12 shapes have been placed in all.

7. Set the first design to the side and start a new design on a separate sheet of Triangle Paper, following steps 1–6.

8. After you finish the second design, each player colors one of the designs. Use colors that match the Power Polygon piece.
Measuring Area with Triangles

Using the triangle piece, determine the area of each of the designs that you made. How many triangles does it take to cover the design?

1. Look at your first design. What is its area? 

   Explain how you determined its area.

2. Look at your second design. What is its area?

   Explain how you determined its area.
## Related Problems About Multiplying Groups of 10

Solve each pair of multiplication problems below.

### 1.
- $9 \times 6 = \underline{54}$
- $9 \times 60 = \underline{540}$

### 2.
- $11 \times 5 = \underline{55}$
- $110 \times 5 = \underline{550}$

### 3.
- $15 \times 6 = \underline{90}$
- $15 \times 60 = \underline{900}$

### 4.
- $14 \times 4 = \underline{56}$
- $14 \times 40 = \underline{560}$

### 5.
- $7 \times 9 = \underline{63}$
- $7 \times 90 = \underline{630}$

### 6.
- $12 \times 6 = \underline{72}$
- $12 \times 60 = \underline{720}$

### 7.
- $5 \times 16 = \underline{80}$
- $50 \times 16 = \underline{800}$

### 8.
- $80 \times 5 = \underline{400}$
- $800 \times 5 = \underline{4000}$
Is It Symmetrical?

Look at each of the block letters below. Some of them have mirror symmetry and some of them do not. For each letter that has mirror symmetry, draw at least one line of symmetry. Can you find more than one line? If a letter does not have a line of symmetry, write “no” next to it.

<p>| | | |</p>
<table>
<thead>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>T</td>
<td>2.</td>
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</tr>
</tbody>
</table>

NOTE Students practice looking for lines of symmetry.

Session 4.1
What’s the Area? (page 1 of 2)

Answer these questions.
Build this design with Power Polygons:

1. What is its area if you use triangles to cover it?
   Area: ________ triangles

2. What is its area if you use trapezoids to cover it?
   Area: ________ trapezoids

Build this design with Power Polygons:

3. What is its area if you use triangles to cover it?
   Area: ________ triangles

4. What is its area if you use trapezoids to cover it?
   Area: ________ trapezoids
What's the Area? (page 2 of 2)

Answer these questions.

Build this design with Power Polygons:

5. What is its area if you use triangles to cover it?
   Area: _______ triangles

6. What is its area if you use trapezoids to cover it?
   Area: _______ trapezoids

7. Compare the number of triangles it takes to cover each shape to the number of trapezoids it takes. What do you notice?

8. If you use hexagons instead of triangles to cover each shape, will it take more hexagons or fewer hexagons? Why do you think so?
# Mirror Symmetry

For each figure that has mirror symmetry, draw the line(s) of symmetry.

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td><img src="image" alt="Ladybug" /></td>
<td>2.</td>
<td><img src="image" alt="Triangle" /></td>
</tr>
<tr>
<td>3.</td>
<td><img src="image" alt="House" /></td>
<td>4.</td>
<td><img src="image" alt="Rectangle" /></td>
</tr>
<tr>
<td>5.</td>
<td><img src="image" alt="Diamonds" /></td>
<td>6.</td>
<td><img src="image" alt="Apple" /></td>
</tr>
<tr>
<td>7.</td>
<td><img src="image" alt="Zigzag" /></td>
<td>8.</td>
<td><img src="image" alt="Star" /></td>
</tr>
</tbody>
</table>

9. On triangle paper, draw a design that has mirror symmetry. You may color it if you like. How many lines of symmetry does your design have?

## Ongoing Review

10. In which shape is the dotted line a line of symmetry?

A. ![Octagon](image)  
B. ![Triangle](image)  
C. ![Oval](image)  
D. ![Diamond](image)
Crazy Cakes (page 1 of 2)

Divide each of the Crazy Cakes below into two equal halves. The two halves do not need to have the same shape. On another sheet of paper, explain how you know that each person gets \( \frac{1}{2} \) of each Crazy Cake.

Crazy Cake 1

Crazy Cake 2

Crazy Cake 3
Divide each of the Crazy Cakes below into two equal halves. The two halves do not need to have the same shape. On another sheet of paper, explain how you know that each person gets \( \frac{1}{2} \) of each Crazy Cake.

**Crazy Cake 4**

**Crazy Cake 5**

**Crazy Cake 6**
More Multiplication and Division Stories

Solve each problem and show your work. Write an equation for each problem.

1. Ms. Thompson sold 6 cartons of cherries at the Farmers’ Market on Saturday. Each carton holds 25 cherries. How many cherries did she sell?

2. On Sunday, Ms. Thompson sold 300 cherries. How many cartons of cherries did she sell on Sunday?

3. Ms. Thompson sells the cherries for $4 per pound. How many pounds of cherries could you buy for $50?
More Crazy Cakes

Divide each of the Crazy Cakes below into two equal halves. The two halves do not need to have the same shape. On another sheet of paper, for each cake, explain how you know that each person gets $\frac{1}{2}$ of each Crazy Cake.

Crazy Cake 1

Crazy Cake 2

Crazy Cake 3

NOTE Students divide a “crazy cake” so that each person sharing the cake would get half of the cake.
Measuring Area on the Geoboard (page 1 of 2)

Find the area of each shape and explain how you found it. It may be helpful to build the shape on your Geoboard.

1. Area: _______________  Explain.

2. Area: _______________  Explain.
Measuring Area on the Geoboard (page 2 of 2)

Find the area of each shape and explain how you found it. It may be helpful to build the shape on your Geoboard.

3. Area: ____________ Explain.

4. Area: ____________ Explain.
Related Problems About Doubling and Halving

Solve each set of multiplication problems below.

<table>
<thead>
<tr>
<th>1.</th>
<th>2.</th>
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<tbody>
<tr>
<td>$8 \times 6 = $</td>
<td>$18 \times 8 = $</td>
</tr>
<tr>
<td>$16 \times 3 = $</td>
<td>$18 \times 4 = $</td>
</tr>
<tr>
<td>$4 \times 12 = $</td>
<td>$9 \times 8 = $</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3.</th>
<th>4.</th>
</tr>
</thead>
<tbody>
<tr>
<td>$9 \times 6 = $</td>
<td>$16 \times 3 = $</td>
</tr>
<tr>
<td>$18 \times 3 = $</td>
<td>$16 \times 6 = $</td>
</tr>
<tr>
<td>$18 \times 6 = $</td>
<td>$8 \times 12 = $</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5.</th>
<th>6.</th>
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<tbody>
<tr>
<td>$15 \times 8 = $</td>
<td>$3 \times 21 = $</td>
</tr>
<tr>
<td>$30 \times 4 = $</td>
<td>$3 \times 42 = $</td>
</tr>
<tr>
<td>$60 \times 4 = $</td>
<td>$6 \times 42 = $</td>
</tr>
</tbody>
</table>

**NOTE** Students practice solving multiplication problems. Ask your child to explain any patterns he or she notices in each set of problems.
That’s Not Fair!

Draw an “X” on any shape that is not fairly divided into two equal halves.

1. [Diagram of a square with an X drawn on it]
2. [Diagram of a triangle with an X drawn on it]
3. [Diagram of a T-shape with an X drawn on it]
4. [Diagram of a right arrow with an X drawn on it]
5. [Diagram of a U-shape with an X drawn on it]
6. [Diagram of a L-shape with an X drawn on it]
7. [Diagram of a T-shape with an X drawn on it]
8. [Diagram of a cross shape with an X drawn on it]
9. [Diagram of a star shape with an X drawn on it]

10. Choose one of the shapes above that does not have equal halves and explain how you know.
Area of Rectangles (page 1 of 2)

The part of Mr. Frank’s classroom that is tiled is covered with rugs. In the drawings below, each tile is one square foot. Find the area of each section of tiled floor. Explain how you got your answer.

1. Area: _______________  Explain.

2. Area: _______________  Explain.
The part of Mr. Frank’s classroom that is tiled is covered with rugs. In the drawings below, each tile is one square foot. Find the area of each section of tiled floor. Explain how you got your answer.

3. Area: ______________ Explain.

4. Area: ______________ Explain.
**Big Square, Little Square**

Find the number of unit squares in each part of the larger square.

1 unit square (or 1 square unit)

<p>| | | | | | | | |</p>
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<td>A</td>
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<td>A</td>
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</tbody>
</table>

**Ongoing Review**

9. In which pair do the figures have equal areas?

A. ![Option A](image1)
B. ![Option B](image2)
C. ![Option C](image3)
D. ![Option D](image4)
Area of Polygons (page 1 of 3)

Determine the area of the polygons shown. Explain or show how you found the area.

1.

2.
Area of Polygons (page 2 of 3)

Determine the area of the polygons shown. Explain or show how you found the area.

3.

4.
Area of Polygons (page 3 of 3)

Determine the area of the polygon shown. Explain or show how you found the area.

5.
Area of 4

Color more spaces to make each shape have an area of 4 square units. Remember: Each shape must have touching gridlines.

Ongoing Review

5. Which figure has an area of 6 square units if 1 square unit = □?

A. B. C. D.
Finding the Area of Rectangles

In each pair of rectangles, circle the rectangle that you think has the greater area. Then check by finding the area of each rectangle.

1. 

2. 

3. 

4. 

5. 

6.
Pet Parade

Your neighborhood is getting ready for its annual Pet Parade. You are in charge of deciding the parade route. Design three different routes for the neighborhood to vote on at the parade meeting. The parade must begin and end at the park, and the route must be 20 blocks long.

The Neighborhood

1. Red Route The length of the red route is _________ blocks.
2. Blue Route The length of the blue route is _________ blocks.
3. Green Route The length of the green route is _________ blocks.
4. How many blocks would the parade need to go to see all of the places on the map?
5. What would the length of that route be?