LETTER HOME

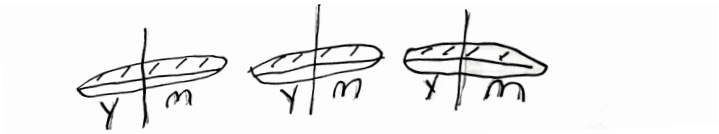
Reason with Shapes

Dear Family Member:

In this unit, we discuss area as the amount of surface covered by a shape. Your child will measure area, as well as related fraction concepts. He or she will find the area of various shapes by counting the number of full squares and piecing together halves and fourths of squares.

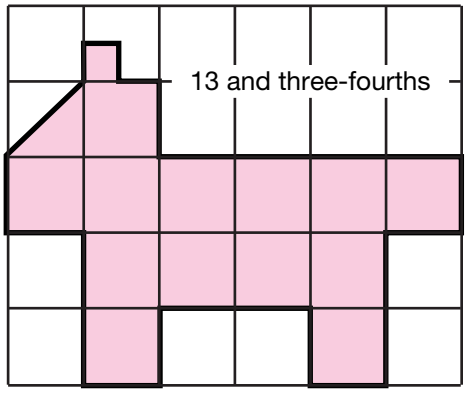
You can provide additional support at home.

- **Measure Areas.** If your home has a floor or wall covered with square tiles, ask your child to figure out the area of the surface by counting the number of square tiles.
- **Fair Share Questions.** Pose fair share questions and ask your child to solve them using a drawing. For example:



Two friends share 3 sandwiches. How much sandwich does each child get?

- **Fraction Hunt.** Look for fractions in your house or at the store. For example, show your child a quarter-cup measuring cup. Use water to show that it takes four quarter-cup measures to fill one whole cup.



Students find the area by counting the number of square centimeters in a shape.

- **Area Estimation with Coins.** Trace various shapes—handprints, footprints, outlines of leaves, and so on—on a sheet of paper and have your child estimate how many pennies are needed to cover the shape. Then check the estimate by covering the shape. What happens to the number of coins needed if you change from pennies to dimes or quarters? Try it. Find two different shapes that can be covered by the same number of pennies.

Math Facts and Mental Math

Students' fluency with the subtraction facts related to the addition facts in Group E will be assessed in this unit.

Group E: $11 - 1$, $11 - 10$, $12 - 2$, $12 - 3$, $12 - 4$, $12 - 5$, $12 - 7$, $12 - 8$, $12 - 9$, $12 - 10$, $13 - 3$, $13 - 4$, $13 - 5$, $13 - 8$, $13 - 9$, $13 - 10$, $14 - 5$, $14 - 9$

You can help your child review these facts using the flash cards sent home or by making a set of flash cards from index cards or scrap paper. Study the facts in small groups each night. As your child goes through the flash cards, put the cards in three stacks: Facts I Know Quickly, Facts I Can Figure Out, and Facts I Need to Learn.

For Facts I Need to Learn, work on strategies for figuring them out.

For Facts I Can Figure Out, use the flash cards to practice the facts for fluency.

For Facts I Know Quickly, help your child use strategies to solve problems like these using mental math: $120 - 80$ (practices $12 - 8$), $1400 - 900$ (practices $14 - 9$).

Sincerely,

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Unit 13: Home Practice

Part 1 Subtraction Flash Cards: Group E

Take home your *Triangle Flash Cards: Group E*. Ask a family member to choose one flash card at a time for you to solve. Sort the flash cards into three piles: Facts I Know Quickly, Facts I Can Figure Out, and Facts I Need to Learn. Update your *Subtraction Facts I Know* chart. Clip the cards in the Facts I Know Quickly pile together and place them back into the envelope. Practice the facts in the last two piles again.

Part 2 Relating Subtraction and Addition

1. A. $14 - \square = 9$ $\quad$ $9 + \square = 14$ $\quad$ **B.** $12 - \square = 4$ $\quad$ $4 + \square = 12$ $\quad$ **C.** $13 - \square = 3$ $\quad$ $3 + \square = 13$

2. A. $11 - \square = 10$ $\quad$ $10 + \square = 11$ $\quad$ **B.** $12 - \square = 3$ $\quad$ $3 + \square = 12$ $\quad$ **C.** $13 - \square = 9$ $\quad$ $9 + \square = 13$

3. $13 - \square = 10$ $\quad$ **4.** $12 - 7 = \square$ $\quad$ **5.** $12 - \square = 10$

6. $13 - \square = 8$ $\quad$ **7.** $12 - \square = 9$ $\quad$ **8.** $13 - \square = 4$

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Part 3 Base-Ten Practice

Solve. Use the *Addition Strategies Menu* in the *Student Activity Book* Reference section.

1. Use base-ten shorthand to show the weight of candy sold at the Yum-Yum store last year.

Candy Weight

Candy	Weight in Pounds	Base-Ten Shorthand
Mini-Mints	145	
Lemon Stars	196	
Vanilla Drops	327	
Coconut Dreams	81	

2. Estimate whether the Yum-Yum store sold more than 500 pounds of candy or less than 500 pounds of candy.

3. Explain how you found your answer.

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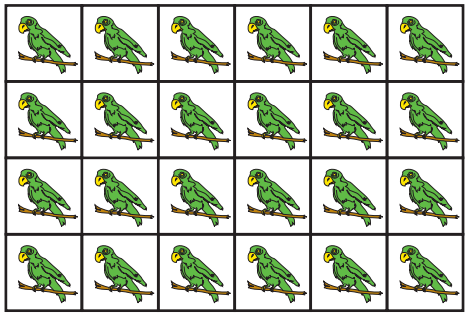
Part 4 Fair Shares

1. Gus bought a sheet of green parrot stickers. Write a number sentence to show how many stickers Gus bought.



Number sentence _____

2. Draw 4 plates for 4 friends. Share 16 crackers equally.

3. Draw 6 goody bags for 6 friends. Share 24 pieces of gum equally.

4. Janet has four dogs and 10 dog bones. How many bones will each dog get?

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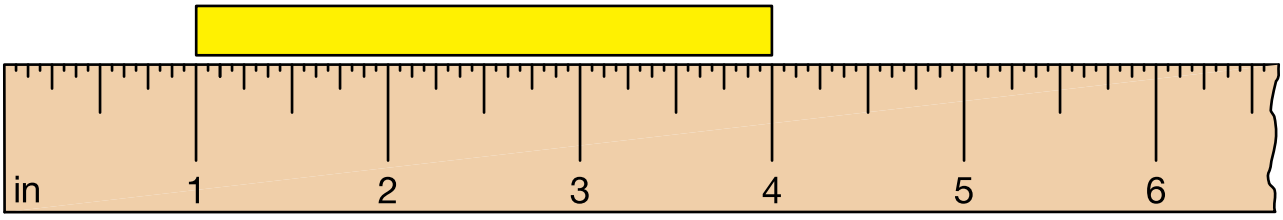
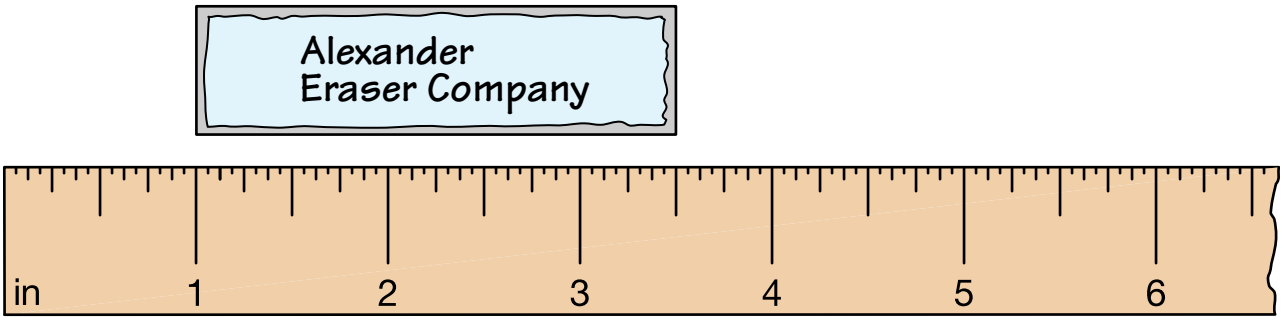
Part 5 Inch Questions

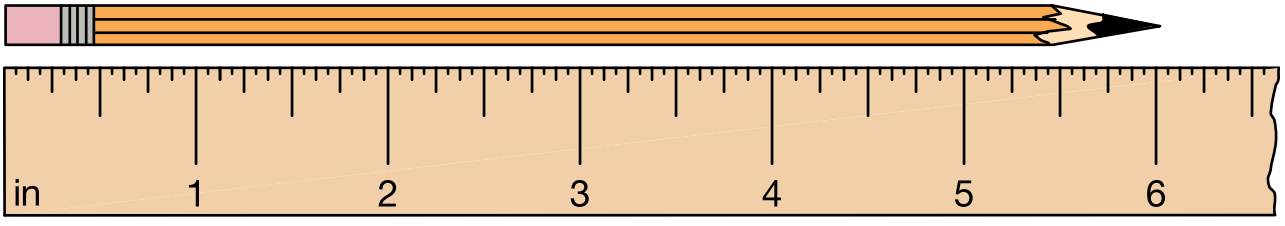
1. How long is the chalk? _____



2. How long is this eraser? _____



3. How long is the pencil? _____



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Part 6 For the Birds

Help the mother bird share the food with her babies.

1. Each baby bird needs 2 leaves of spinach. Mother bird has 10 leaves. Draw the number of baby birds she can feed.

How many baby birds ate spinach? _____

2. Each baby bird needs 4 grapes. Mother bird has 12 grapes. Draw the number of baby birds she can feed.

How many baby birds ate grapes? _____

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3. Each baby bird needs 4 apple chunks. Mother bird has 12 apple chunks. Draw the number of baby birds she can feed.

How many baby birds ate apple chunks? _____

4. Each baby bird needs 5 raisins. Mother bird has 16 raisins. Draw the number of baby birds she can feed.

How many baby birds ate raisins? _____

5. Each baby bird needs 8 seeds. Mother bird has 24 seeds. Draw the number of baby birds she can feed.

How many baby birds ate seeds? _____

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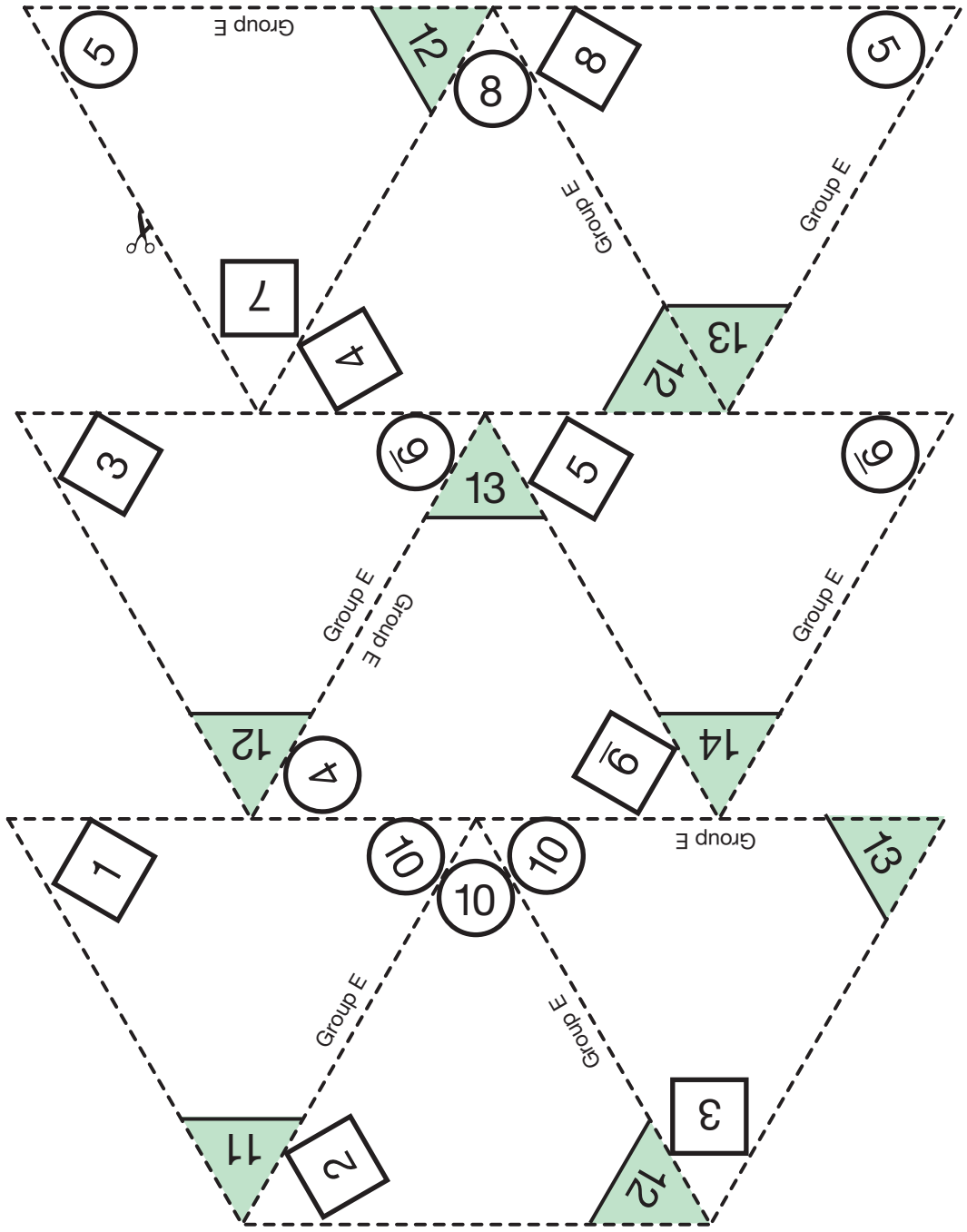
Triangle Flash Cards: Group E

- **To practice an addition fact, cover the corner with the highest number. Add the two uncovered numbers.**
- **To practice a subtraction fact, cover one of the smaller numbers and subtract from the highest number.**



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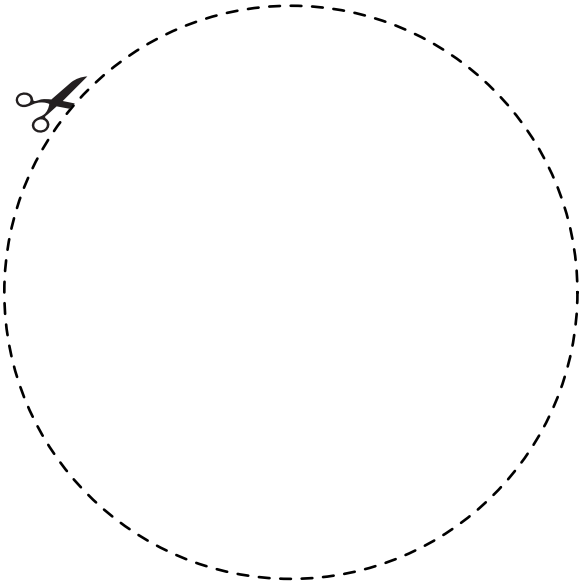
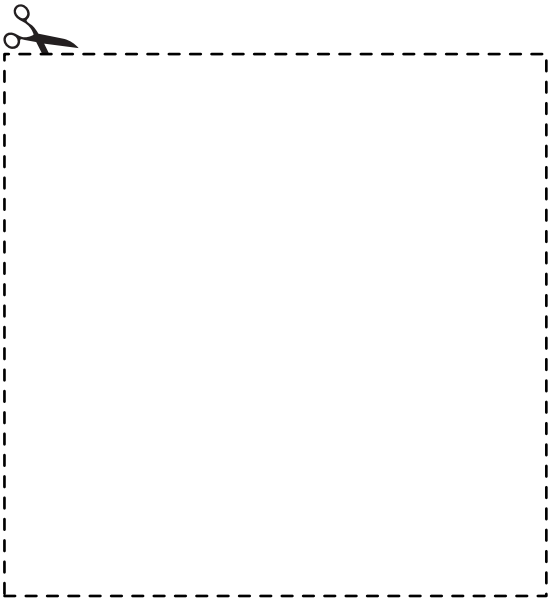
Shape Models





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Subtraction Facts I Know

Circle the subtraction facts you know and can answer quickly.

0 − 0 = 0	1 − 0 = 1	2 − 0 = 2	3 − 0 = 3	4 − 0 = 4	5 − 0 = 5	6 − 0 = 6	7 − 0 = 7	8 − 0 = 8	9 − 0 = 9
1 − 1 = 0	2 − 1 = 1	3 − 1 = 2	4 − 1 = 3	5 − 1 = 4	6 − 1 = 5	7 − 1 = 6	8 − 1 = 7	9 − 1 = 8	10 − 1 = 9
2 − 2 = 0	3 − 2 = 1	4 − 2 = 2	5 − 2 = 3	6 − 2 = 4	7 − 2 = 5	8 − 2 = 6	9 − 2 = 7	10 − 2 = 8	11 − 2 = 9
3 − 3 = 0	4 − 3 = 1	5 − 3 = 2	6 − 3 = 3	7 − 3 = 4	8 − 3 = 5	9 − 3 = 6	10 − 3 = 7	11 − 3 = 8	12 − 3 = 9
4 − 4 = 0	5 − 4 = 1	6 − 4 = 2	7 − 4 = 3	8 − 4 = 4	9 − 4 = 5	10 − 4 = 6	11 − 4 = 7	12 − 4 = 8	13 − 4 = 9
5 − 5 = 0	6 − 5 = 1	7 − 5 = 2	8 − 5 = 3	9 − 5 = 4	10 − 5 = 5	11 − 5 = 6	12 − 5 = 7	13 − 5 = 8	14 − 5 = 9
6 − 6 = 0	7 − 6 = 1	8 − 6 = 2	9 − 6 = 3	10 − 6 = 4	11 − 6 = 5	12 − 6 = 6	13 − 6 = 7	14 − 6 = 8	15 − 6 = 9
7 − 7 = 0	8 − 7 = 1	9 − 7 = 2	10 − 7 = 3	11 − 7 = 4	12 − 7 = 5	13 − 7 = 6	14 − 7 = 7	15 − 7 = 8	16 − 7 = 9
8 − 8 = 0	9 − 8 = 1	10 − 8 = 2	11 − 8 = 3	12 − 8 = 4	13 − 8 = 5	14 − 8 = 6	15 − 8 = 7	16 − 8 = 8	17 − 8 = 9
9 − 9 = 0	10 − 9 = 1	11 − 9 = 2	12 − 9 = 3	13 − 9 = 4	14 − 9 = 5	15 − 9 = 6	16 − 9 = 7	17 − 9 = 8	18 − 9 = 9
10 − 10 = 0	11 − 10 = 1	12 − 10 = 2	13 − 10 = 3	14 − 10 = 4	15 − 10 = 5	16 − 10 = 6	17 − 10 = 7	18 − 10 = 8	19 − 10 = 9

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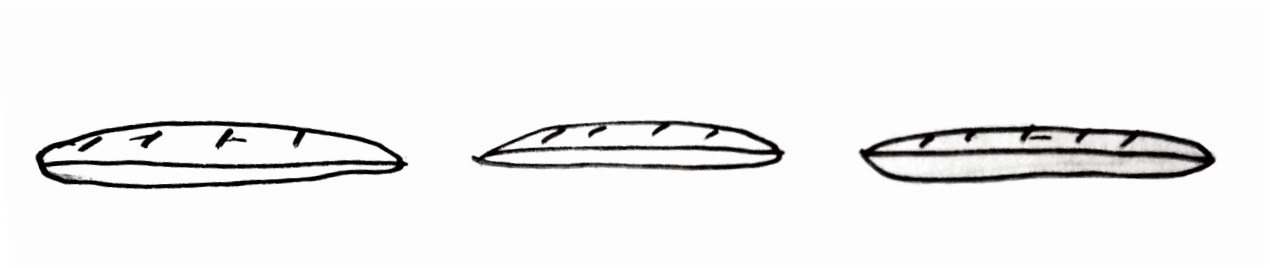
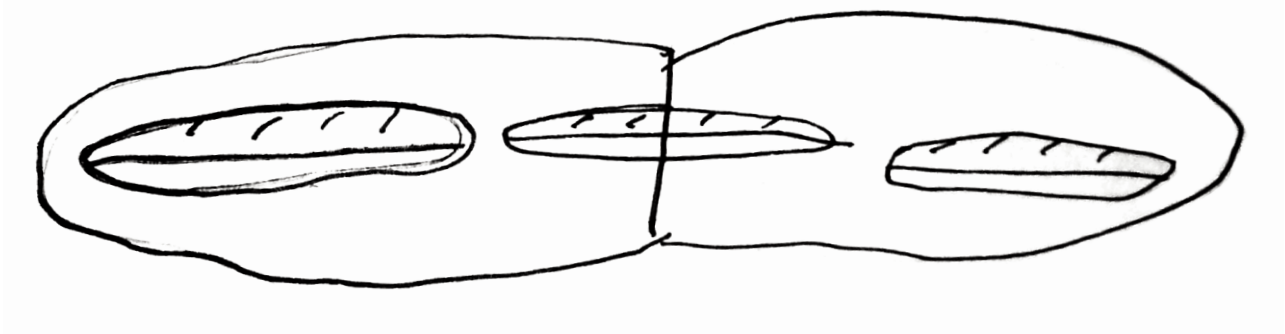
Sharing Sandwiches

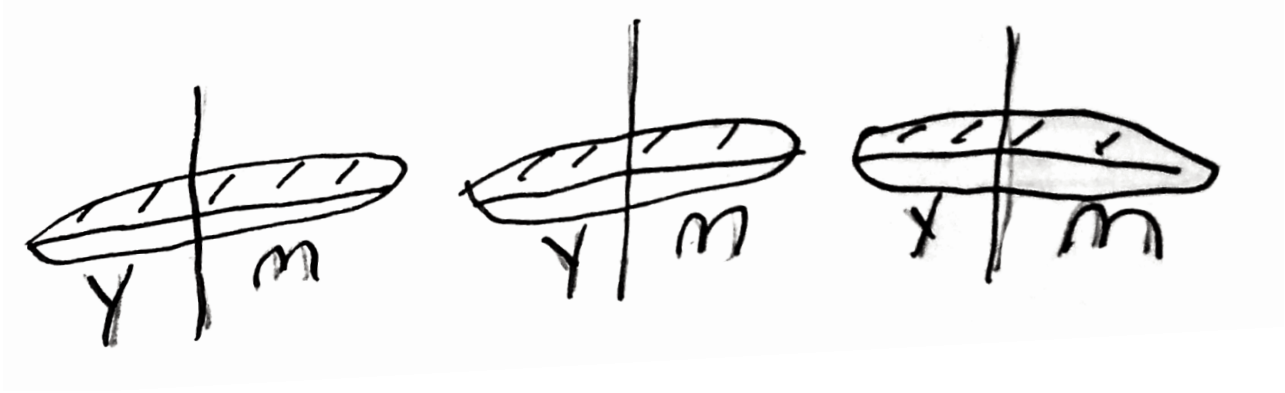
2 friends share 3 sandwiches:



My way of sharing:



My friend's way of sharing:



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Professor Peabody's Candy Bars

Homework

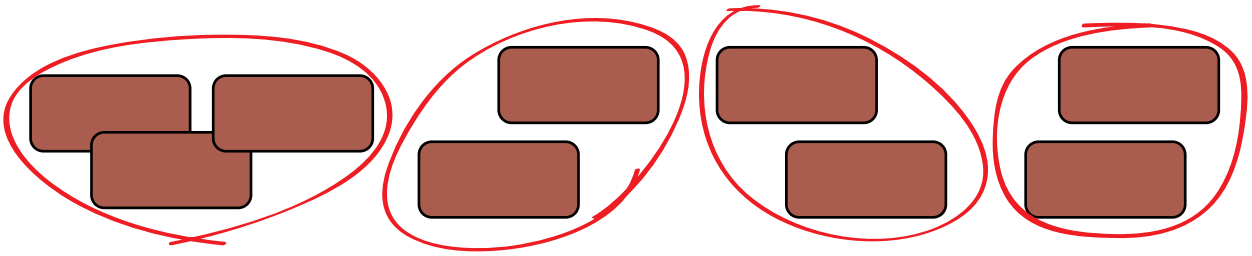
Dear Family Member:

Your child is learning to partition shapes and sets into equal shares. We call equal shares "fair shares." Equal sharing is something most students are familiar with because of their experiences fairly sharing food, game pieces, sets of toys, and so on with friends and family members. Please take some time to discuss the fair share problem below with your child.

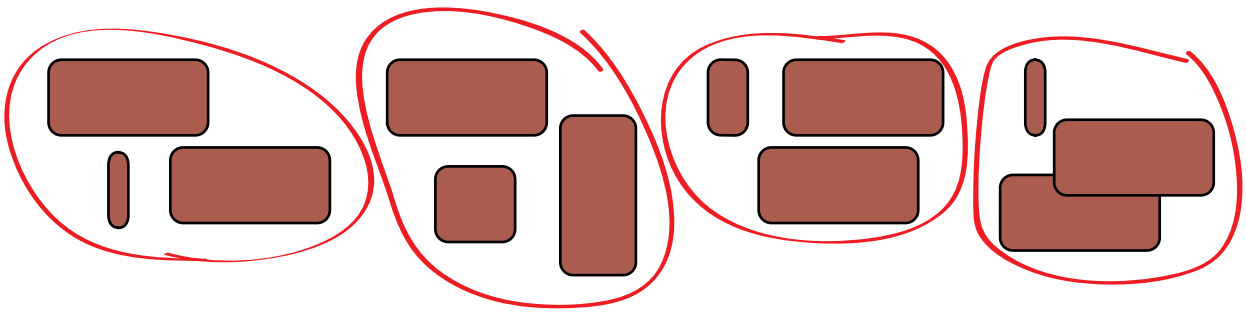
Thank you.

Professor Peabody has 9 candy bars. He wants 4 of his friends to share them equally. He wonders how he can make 4 equal shares. Discuss the answers to the questions below with someone.

1. At first, Professor Peabody thought he could share the candy this way. Is this fair? Why or why not?



2. Then he thought he could share the candy this way. Is this fair? Why or why not?



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3. Show how Professor Peabody can share 9 candy bars fairly among his 4 friends.

4. Tell someone how you know that each friend got a fair share of candy.

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Find Part of the Whole

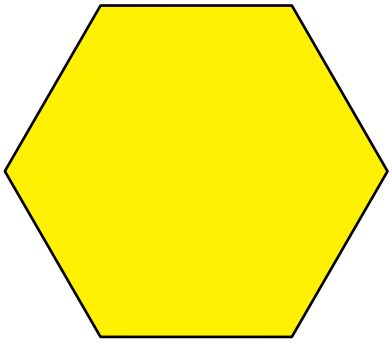
Homework

Dear Family Member:

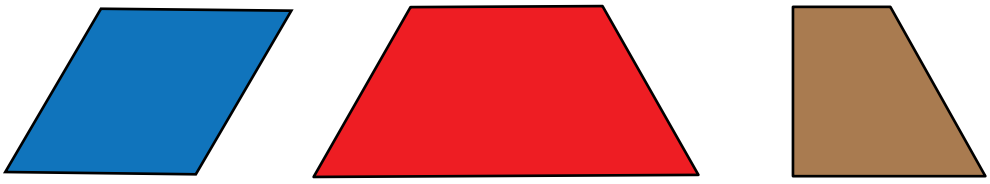
Your child has been using pattern blocks to learn about fractional parts of wholes. Given the whole, they are to find a half, third, or fourth. Your child can color, cut out, and use the pattern block shapes at the bottom of the page to help them solve the problems if they choose.

Thank you.

1. This is the whole:



Circle the pattern block that shows one-half:



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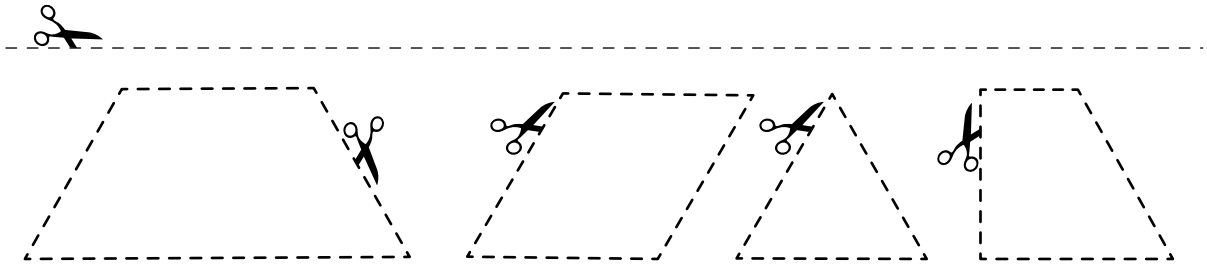

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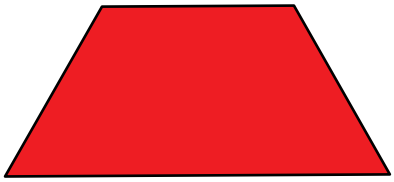
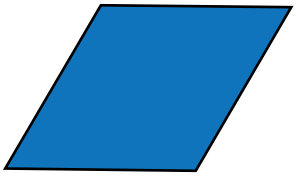
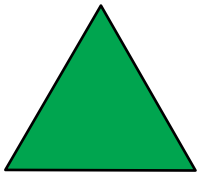
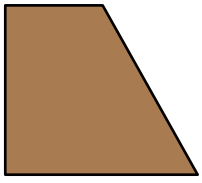
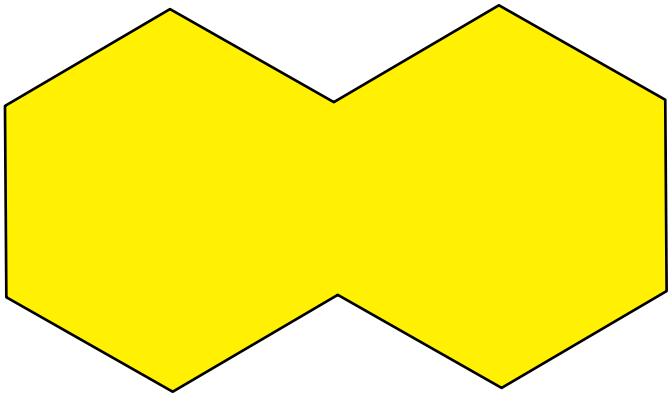
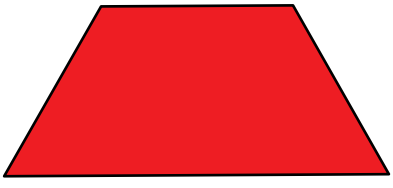
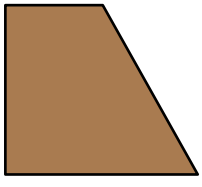
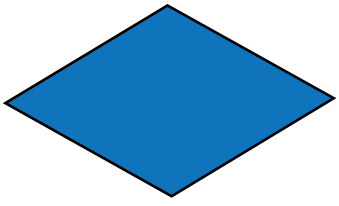
2. This is the whole: 

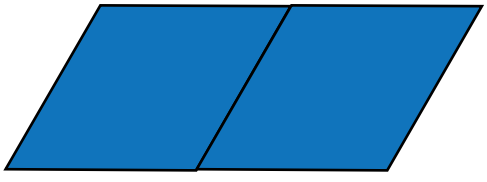
Circle the pattern block that shows one-third:

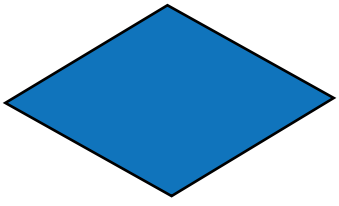
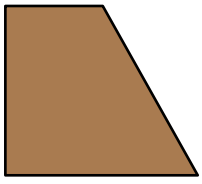
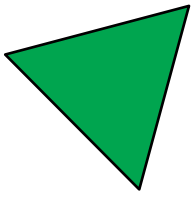
3. This is the whole: 

Circle the pattern block that shows one-fourth:

4. This is the whole: 

Circle the pattern block that shows one-fourth:

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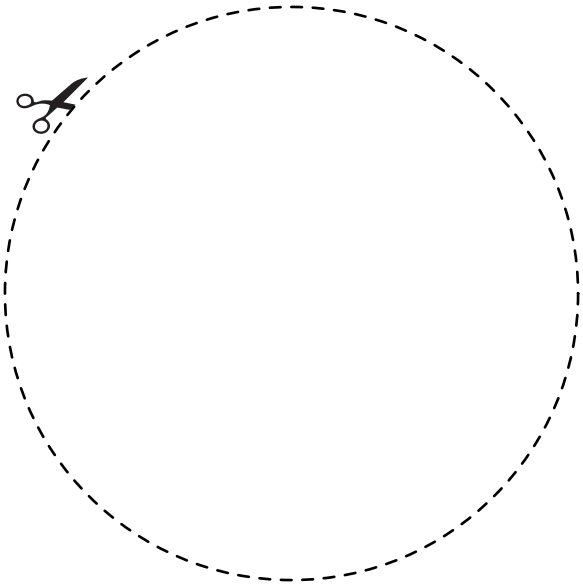
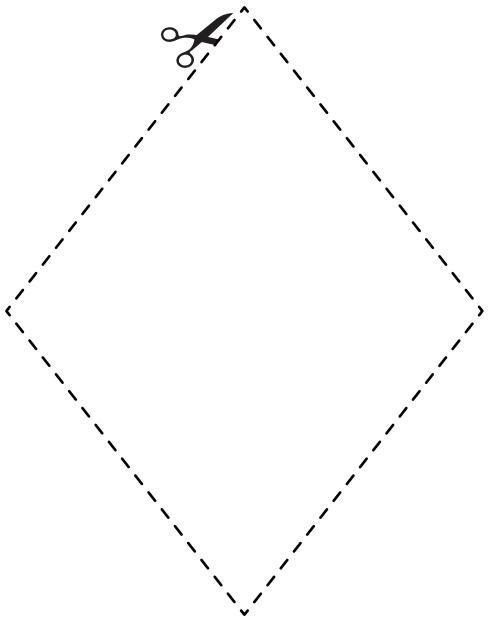
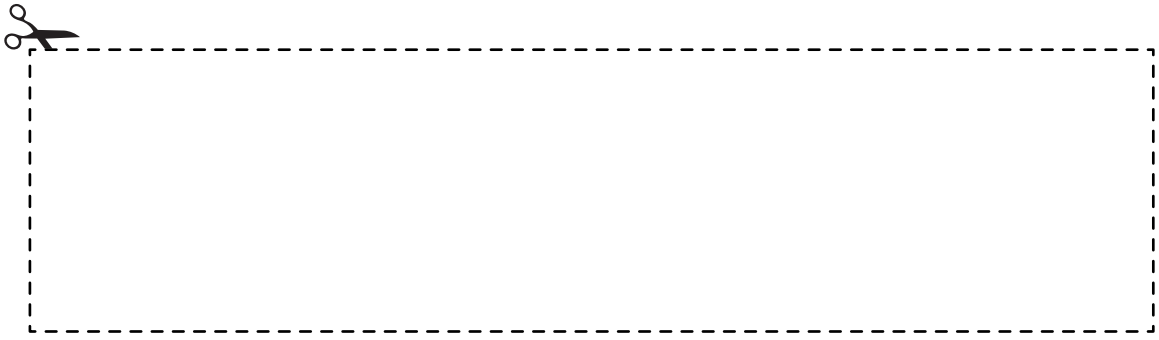
Fold and Color Halves

Color and cut out the shapes. Fold each in half. Use them for the Folding and Showing Halves section.







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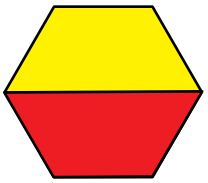
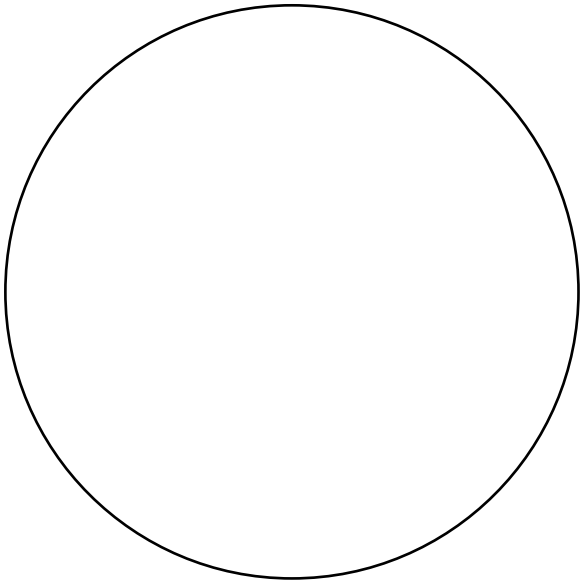
Folding and Showing Halves

Paste your cutout shapes on the shapes below. Complete the sentence.

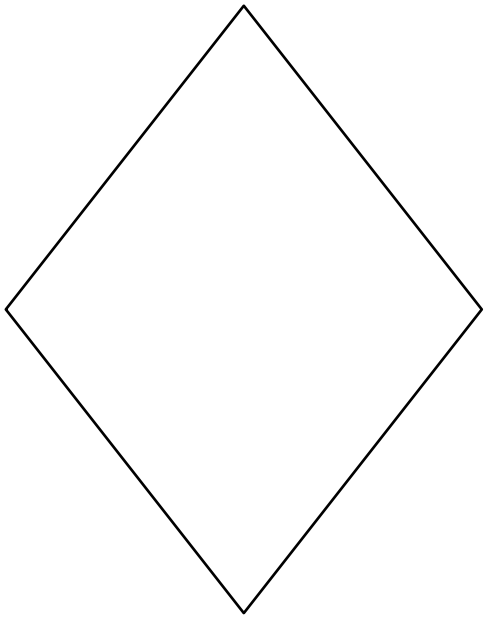


Example

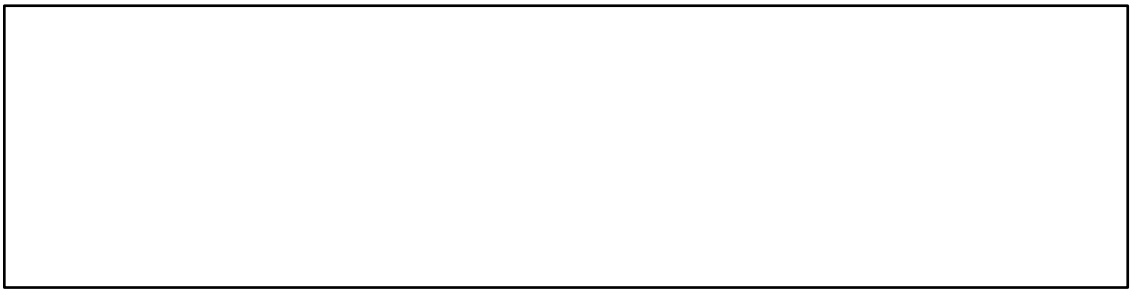
I colored *one-half* of this *hexagon* .



I colored _____ of this _____ .



I colored _____ of this _____ .



I colored _____ of this _____ .

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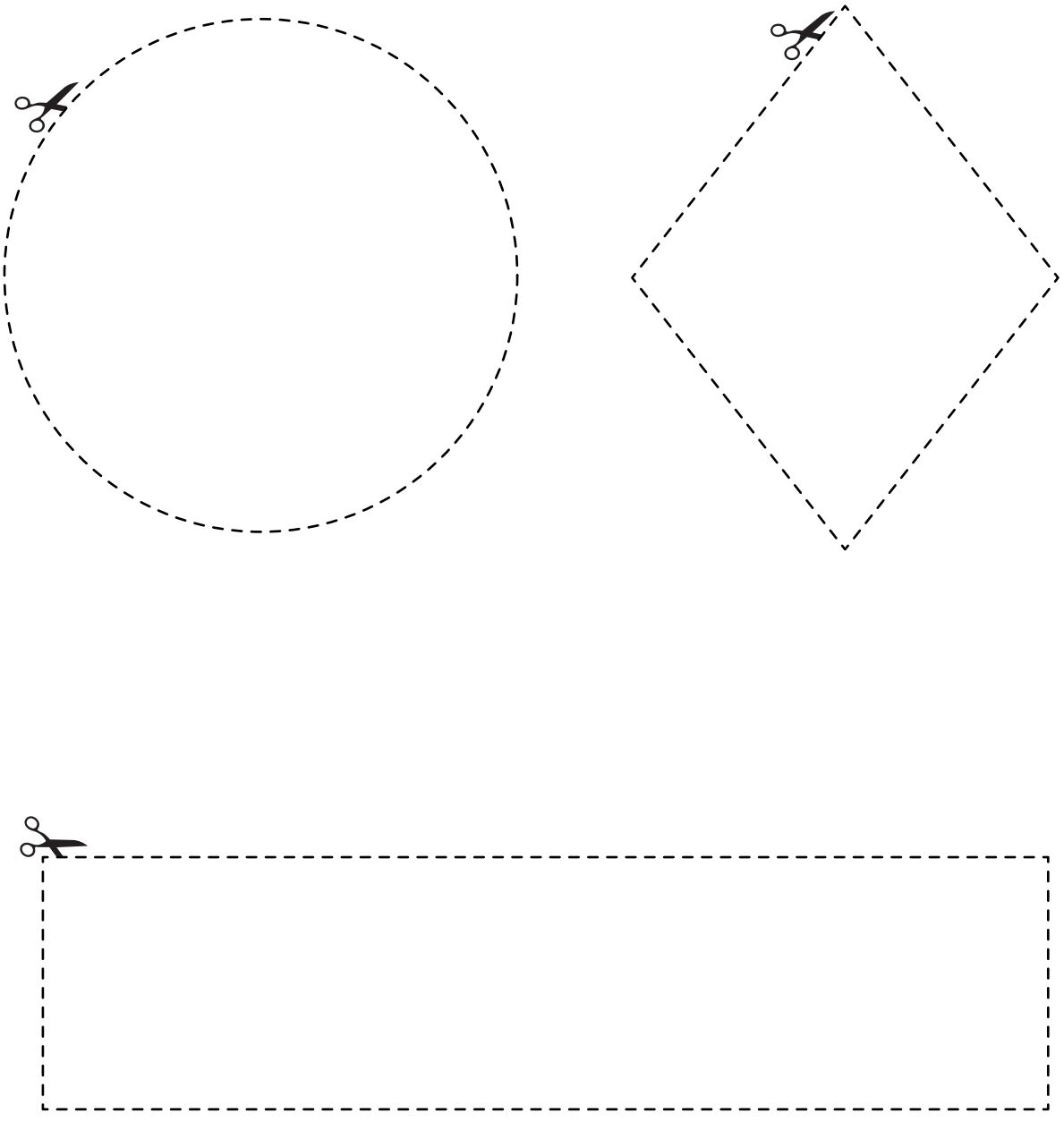
Fold and Color Fourths

Color and cut out the shapes. Fold each in fourths. Use them for the Folding and Showing Fourths section.



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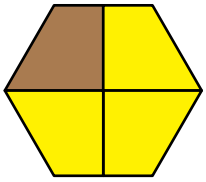
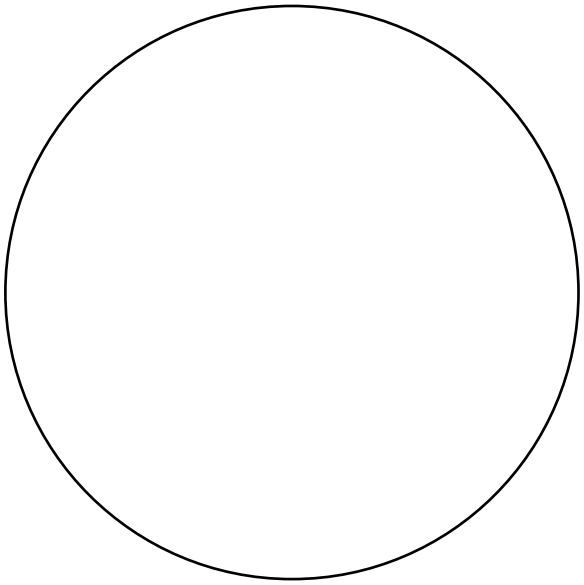
Folding and Showing Fourths

Paste your cutout shapes on the shapes below. Complete the sentence.

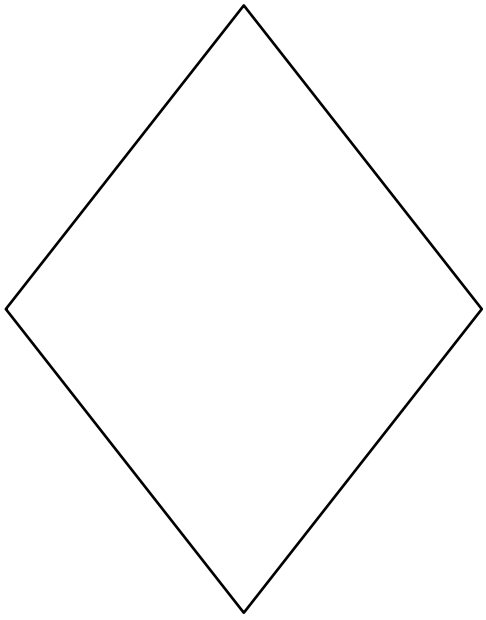


Example

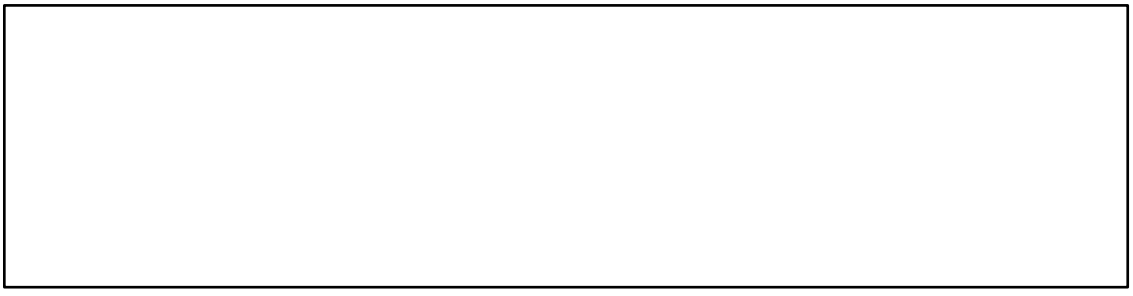
I colored *one-fourth* of this *hexagon* .



I colored _____ of this _____ .



I colored _____ of this _____ .



I colored _____ of this _____ .

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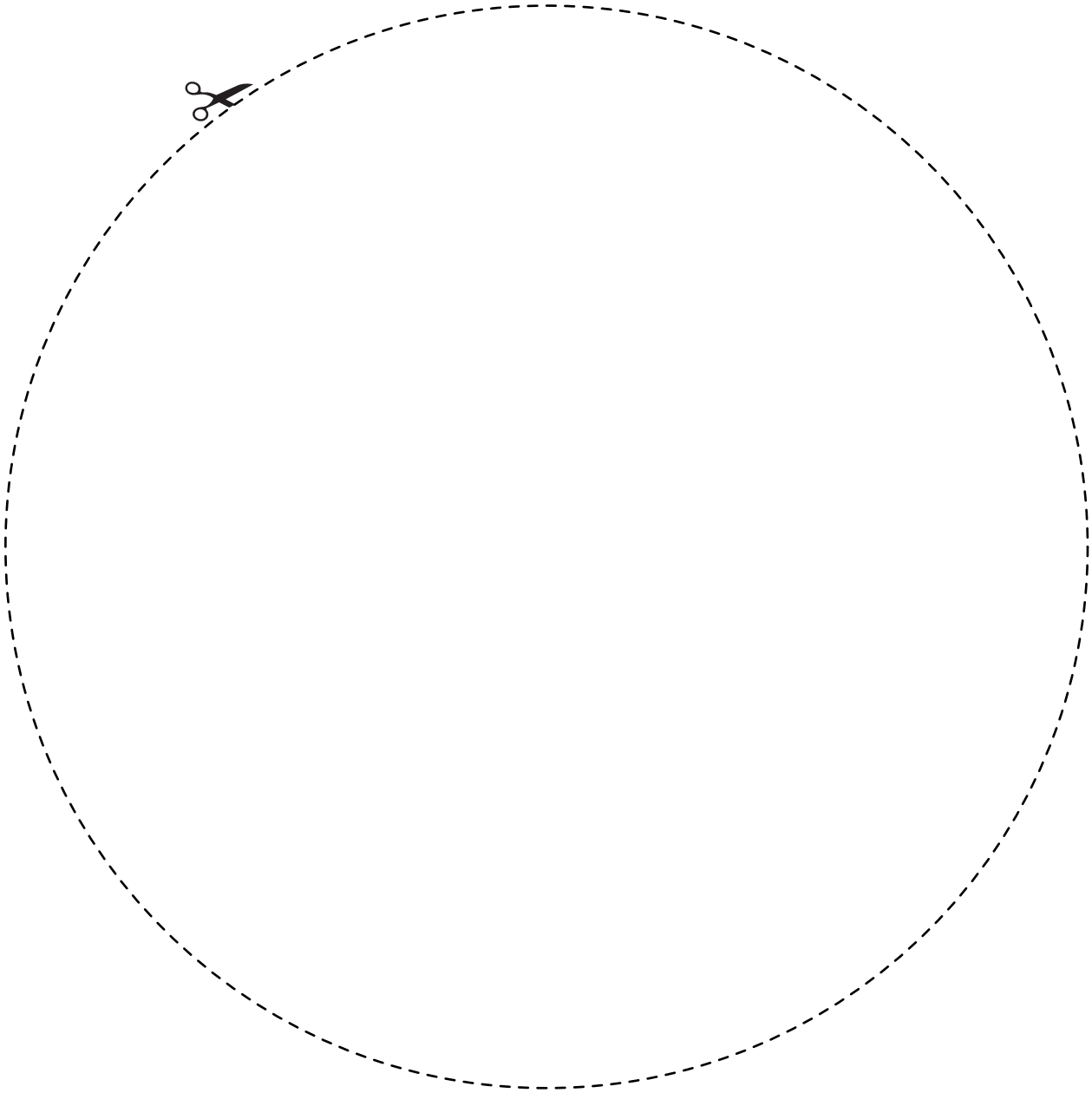
Circle Model



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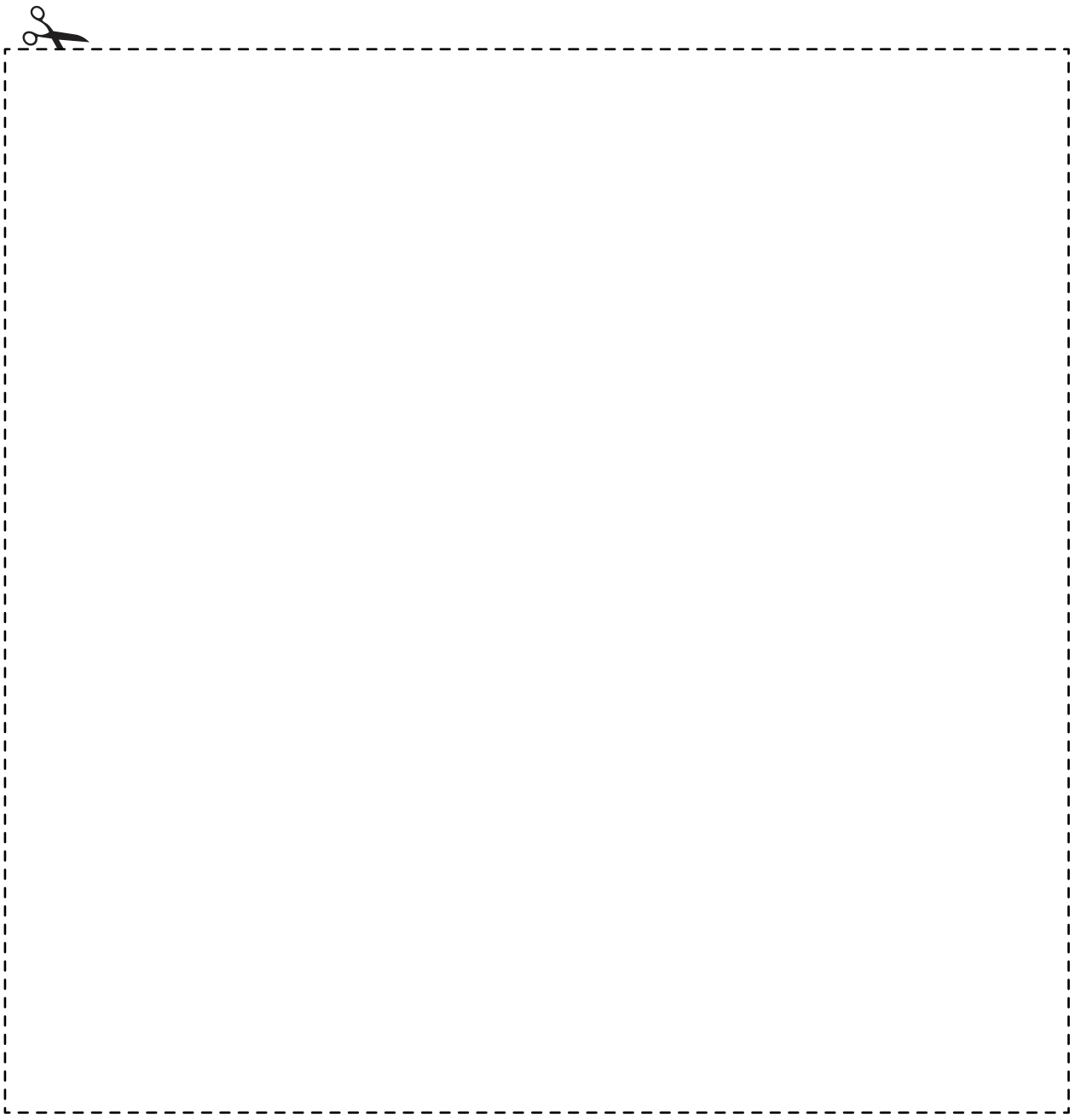
Square Model



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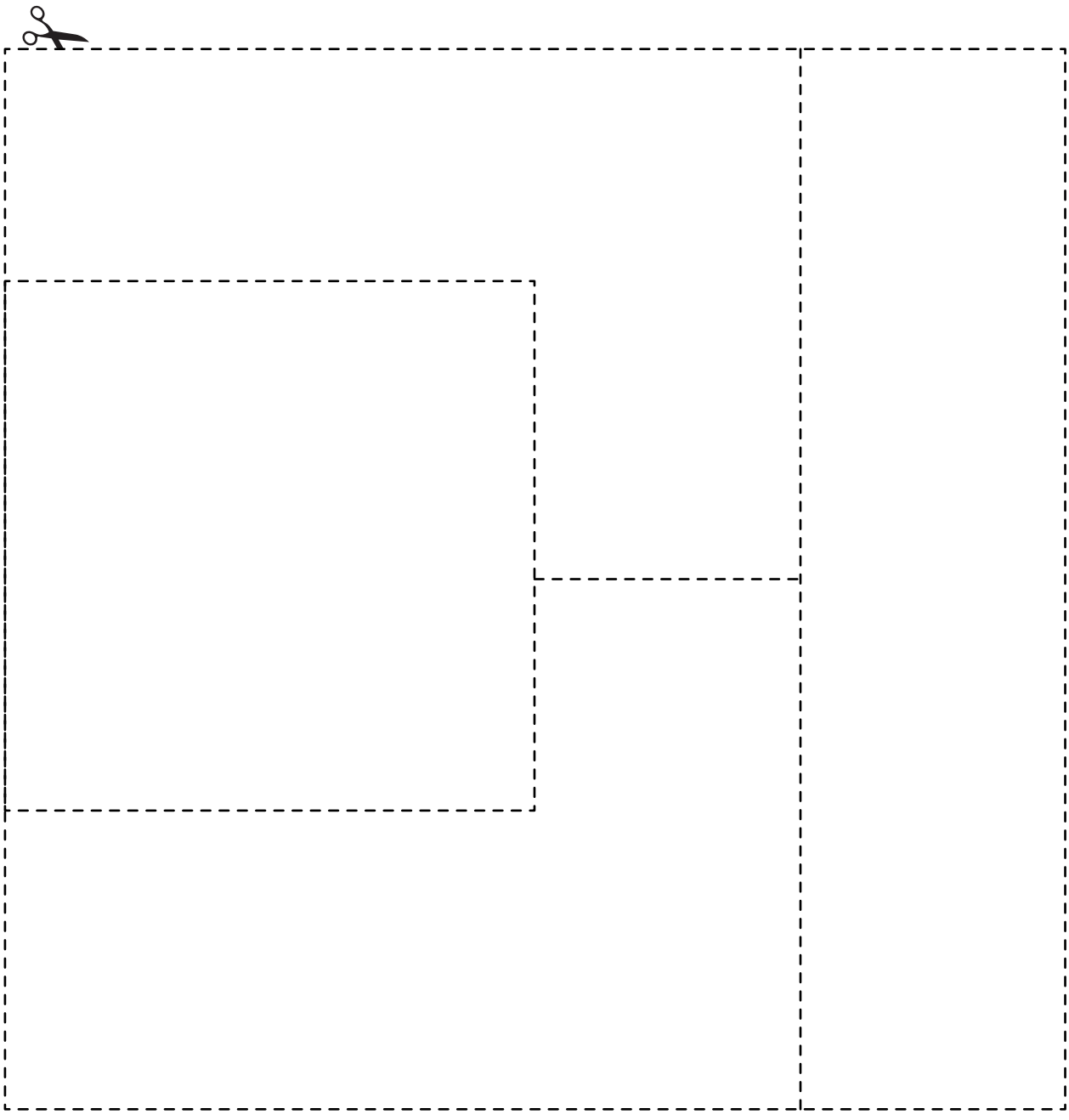
Unusual Cut



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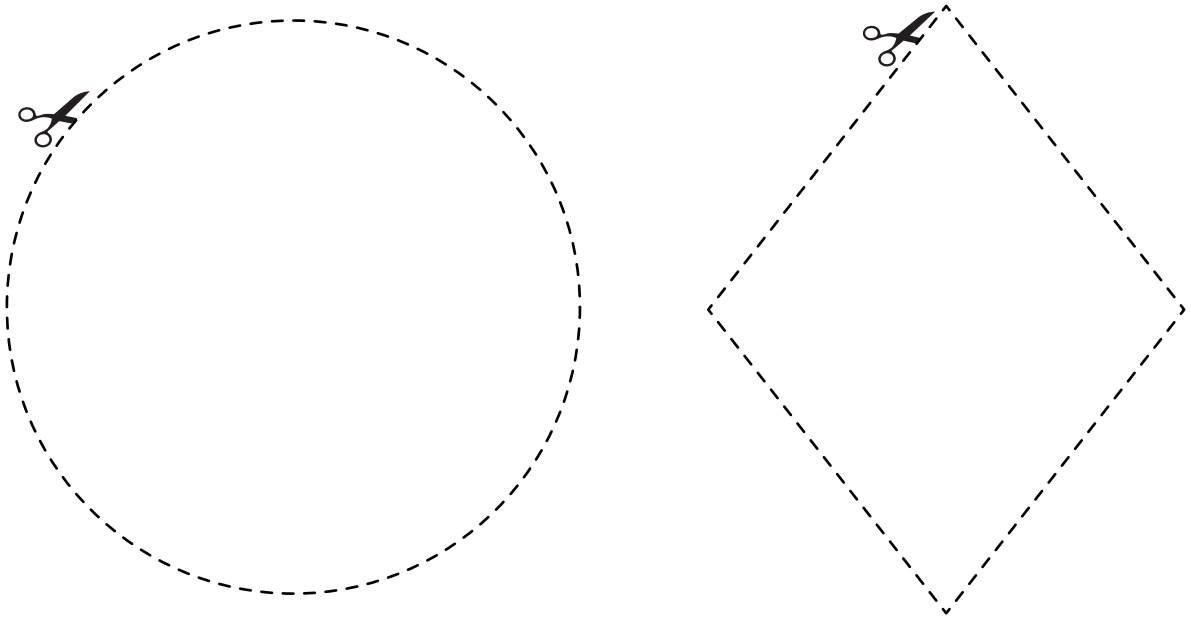
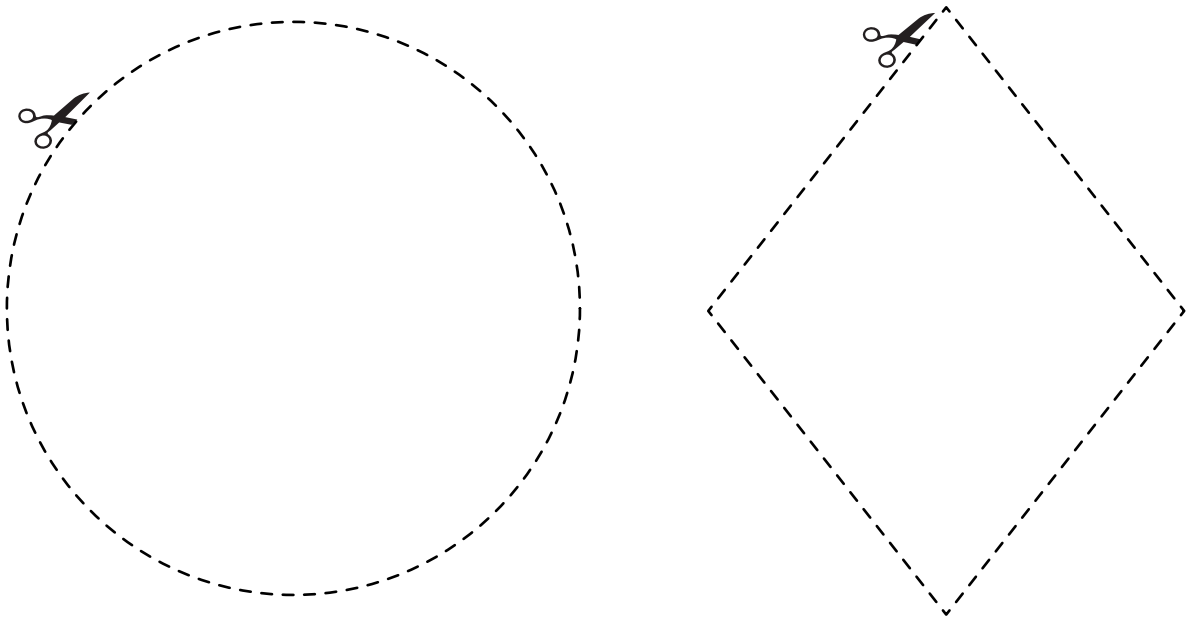
Halves and Not Halves

Cut out the shapes below. Fold each shape into two equal parts. Color one part and write “one-half.”



Cut out the shapes below. Fold each shape into two unequal parts. Color one part and write “not-half.”



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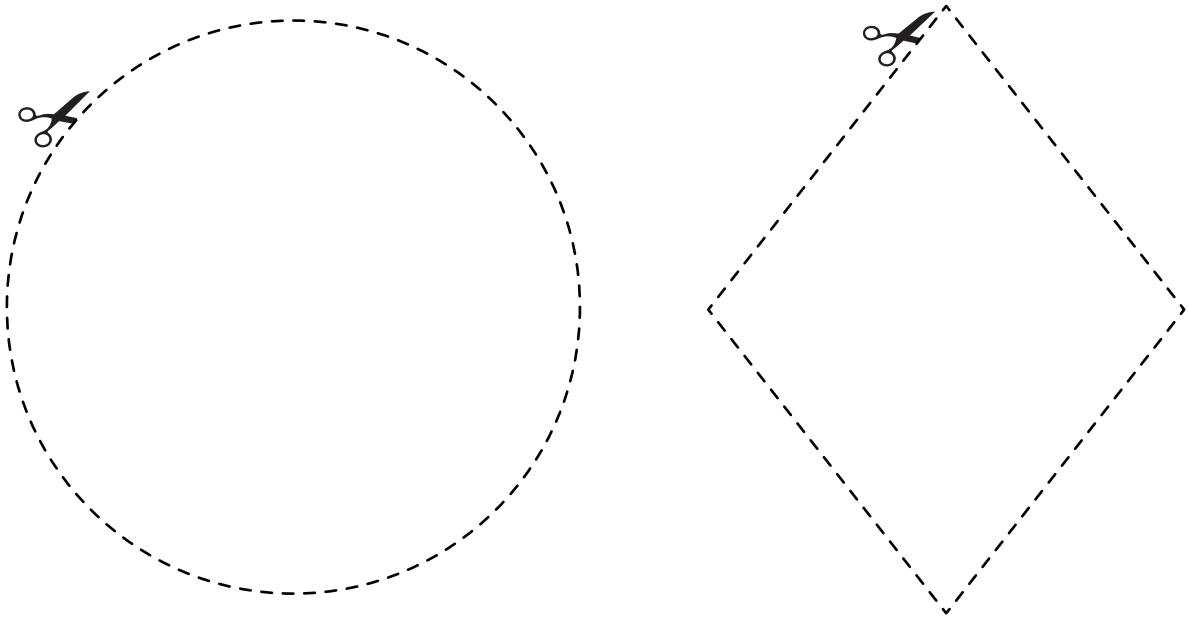
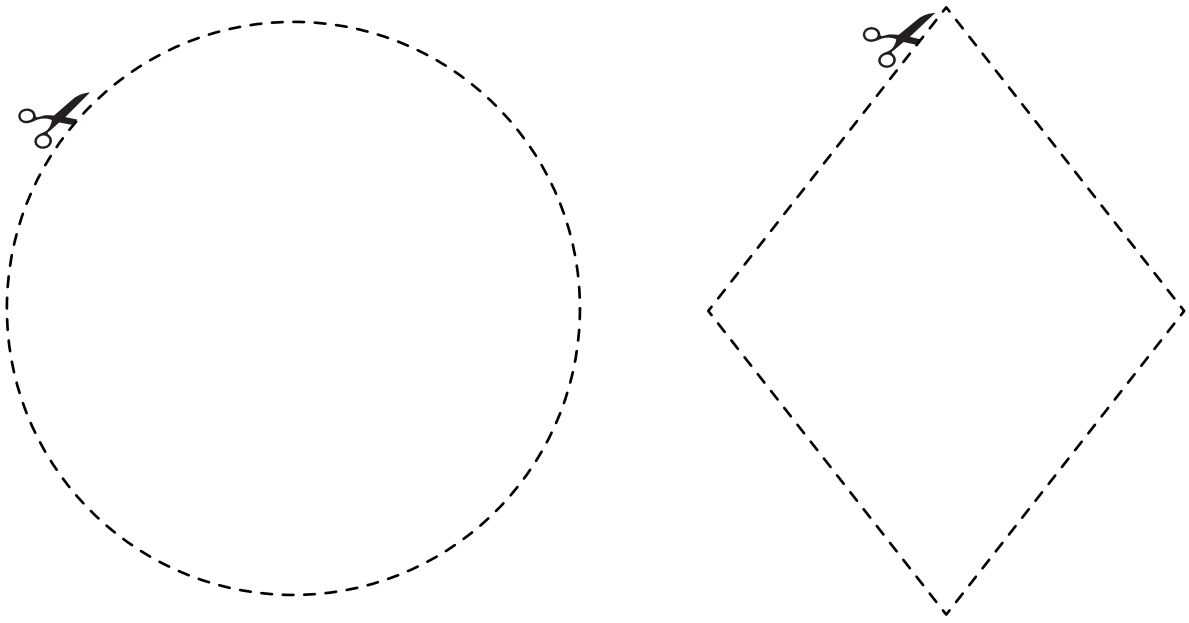
Fourths and Not Fourths

Cut out the shapes below. Fold shape into four equal parts. Color one part and write "one-fourth."



Cut out the shapes below. Fold shape into four unequal parts. Color one part and write "not one-fourth."



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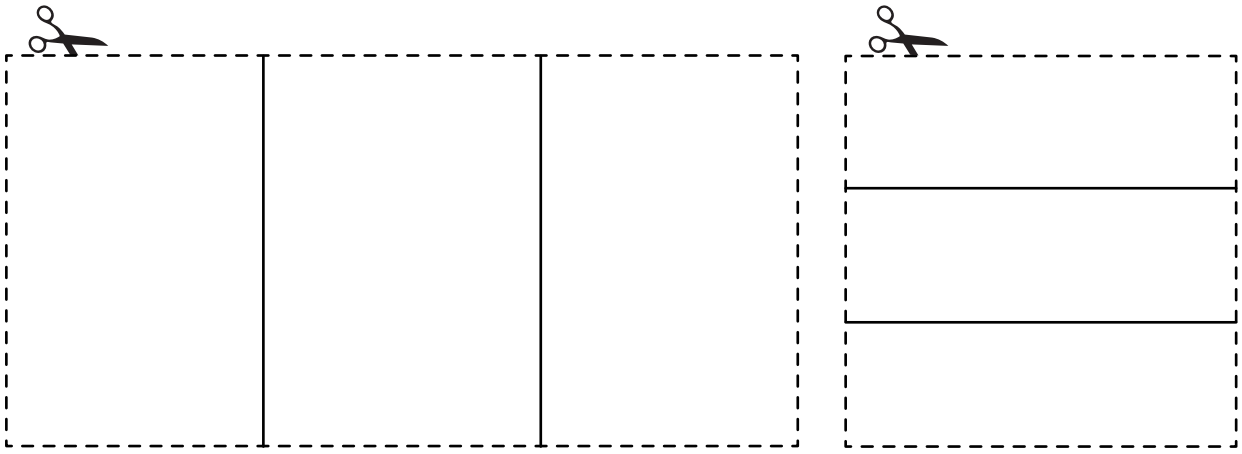
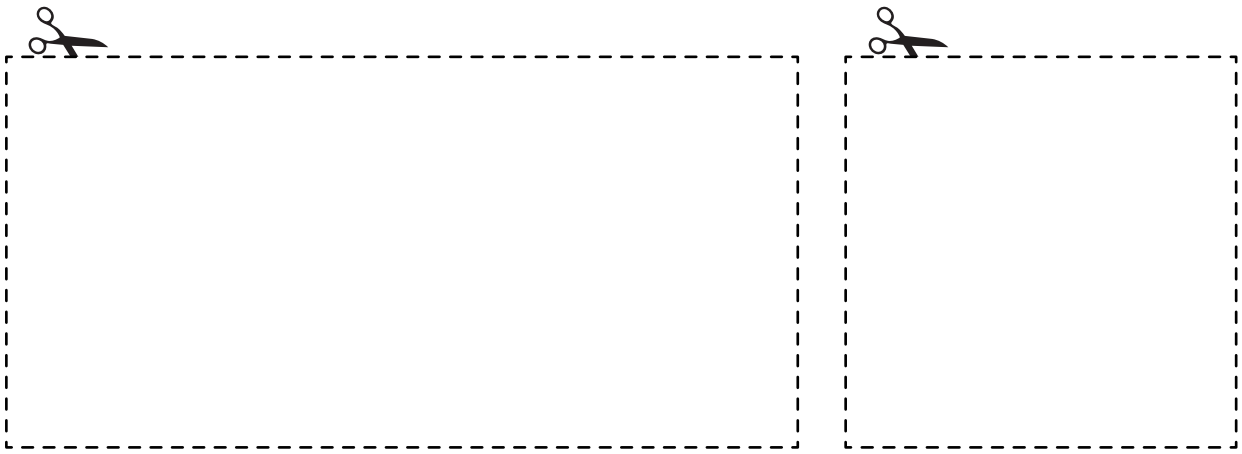
Thirds and Not Thirds

Cut out the shapes below. Fold each shape into three equal parts. Color one part and write “one-third.”



Cut out the shapes below. Fold each shape into three unequal parts. Color one part and write “not one-third.”



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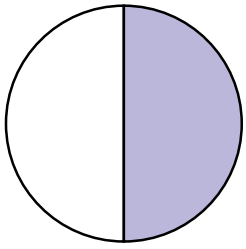
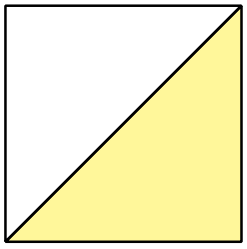
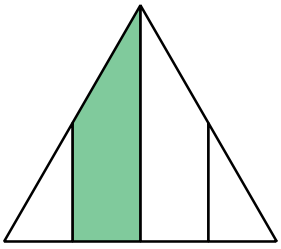
One-Half, One-Fourth, and One-Third

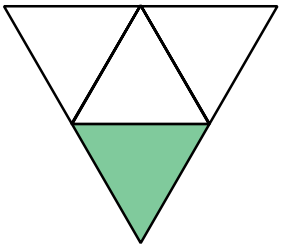
Homework

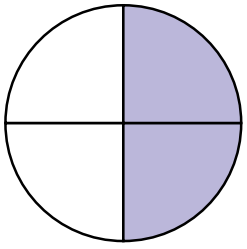
- In red, circle the shapes where half of the shape is shaded.
- In yellow, circle the shapes where one-third of the shape is shaded.
- In blue, circle the shapes where one-fourth of the shape is shaded.

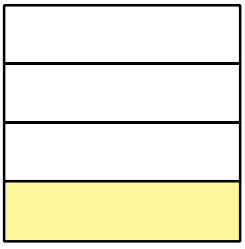
A. 

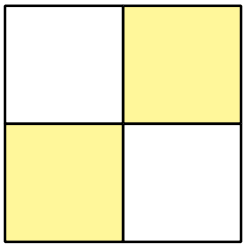
B. 

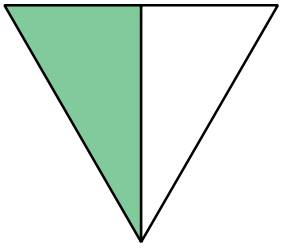
C. 

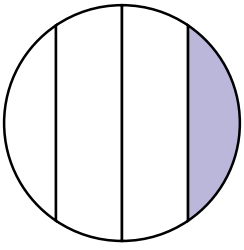
D. 

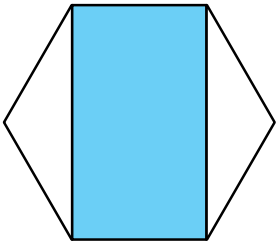
E. 

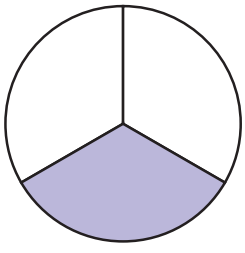
F. 

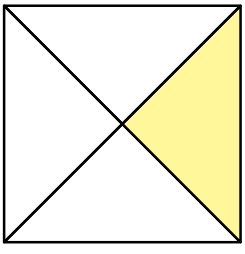
G. 

H. 

I. 

J. 

K. 

L. 

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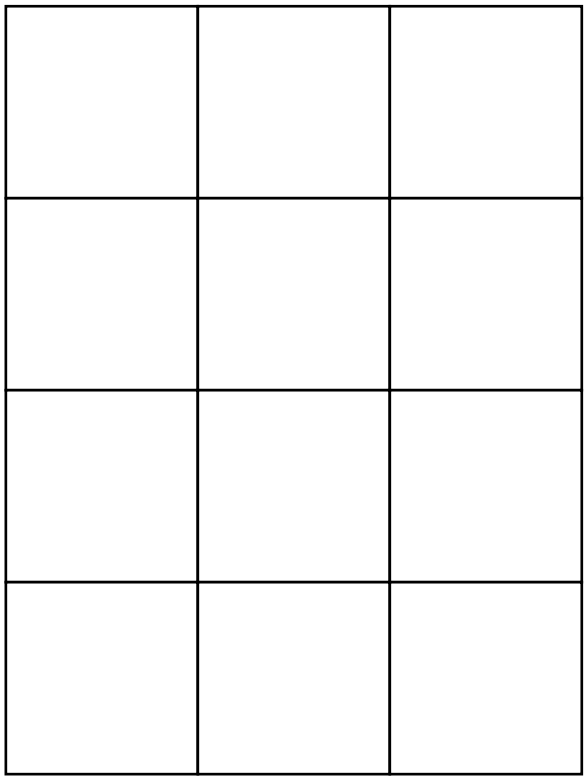
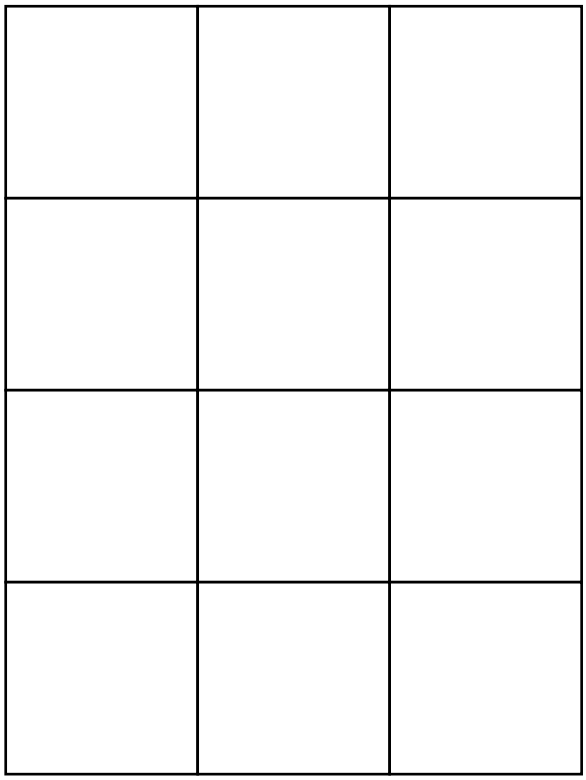
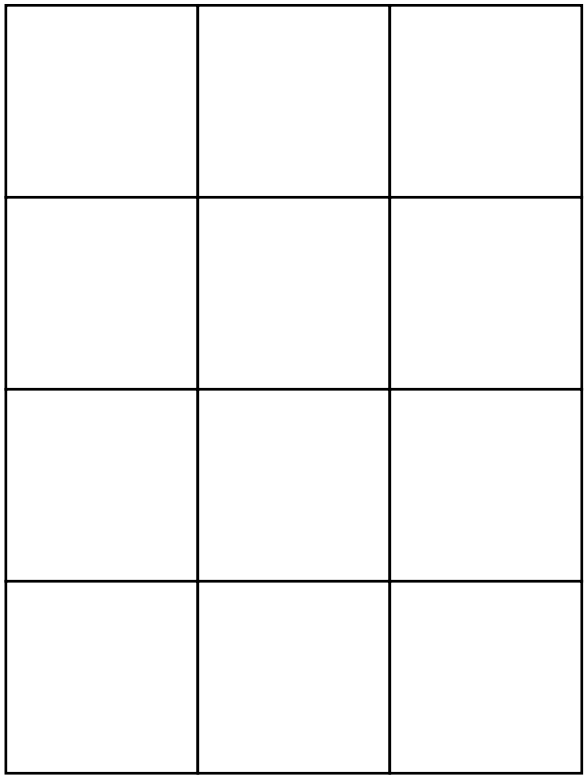
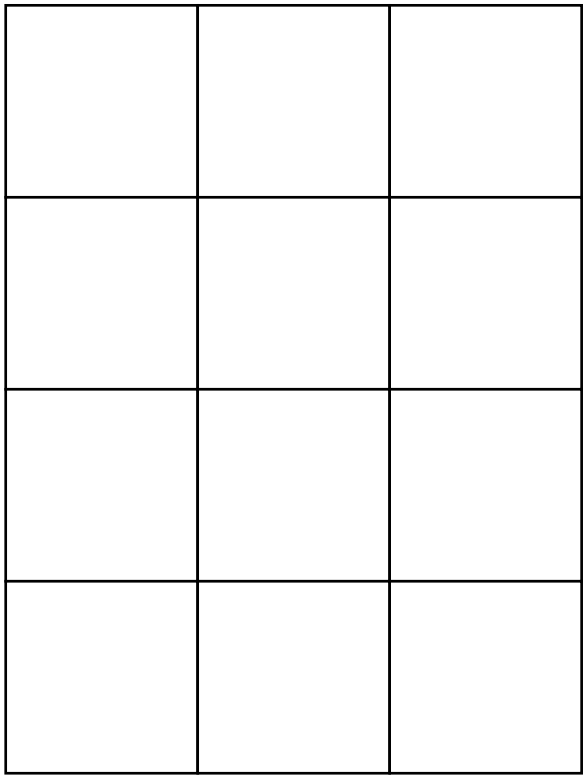
4 Sides and 4 Corners 1









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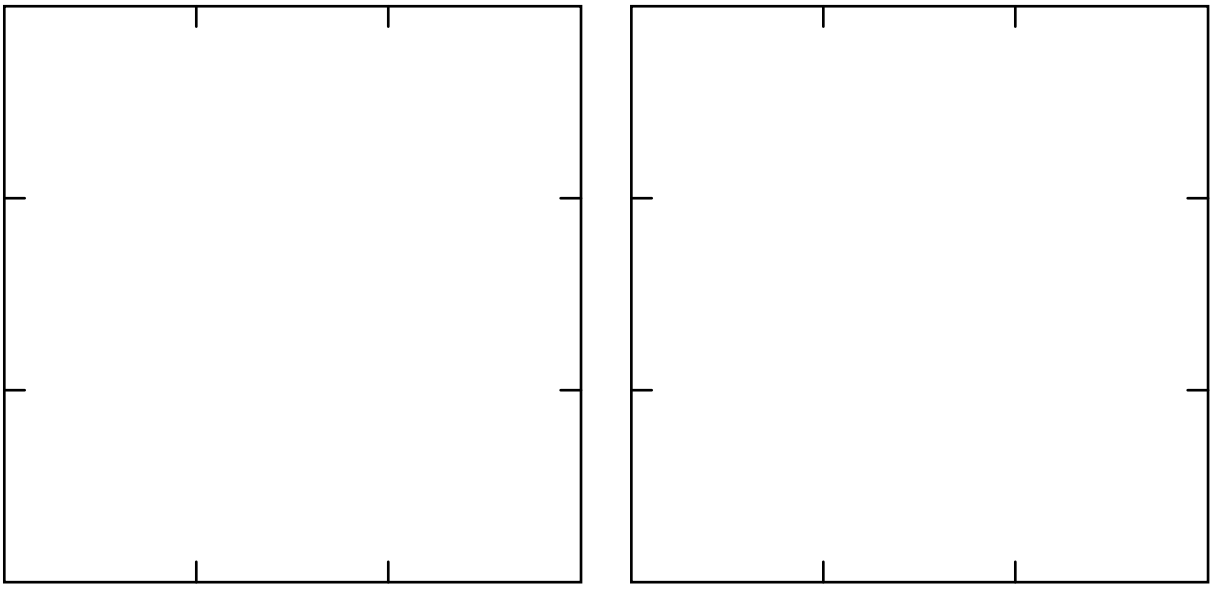
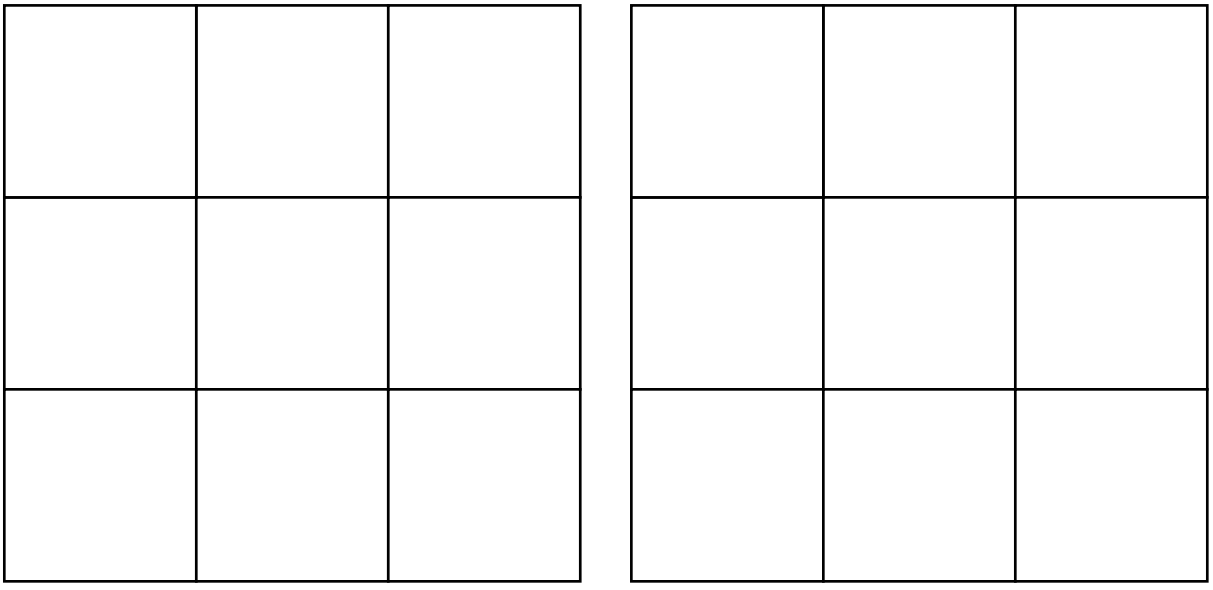
4 Sides and 4 Corners 2





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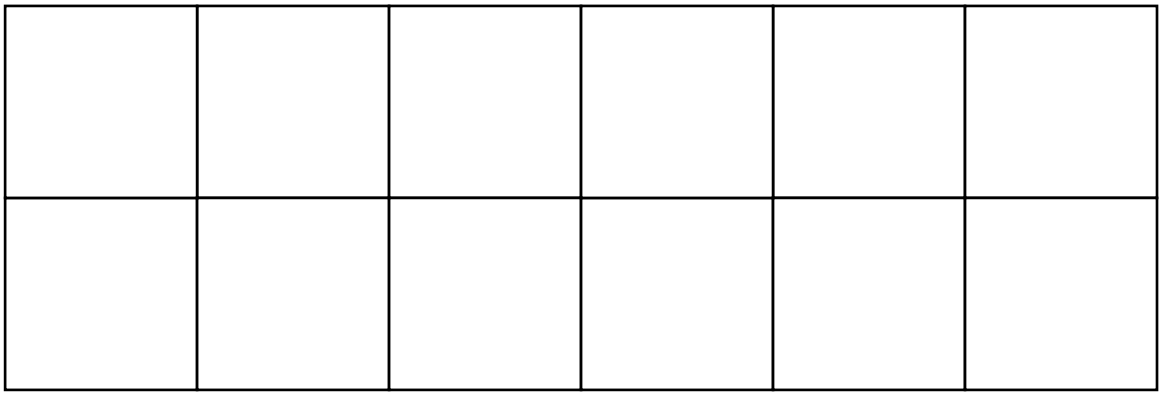
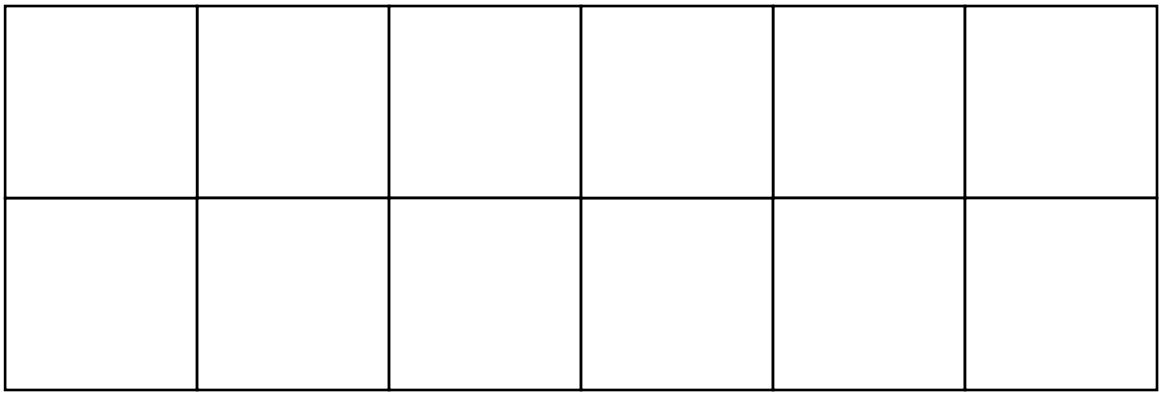
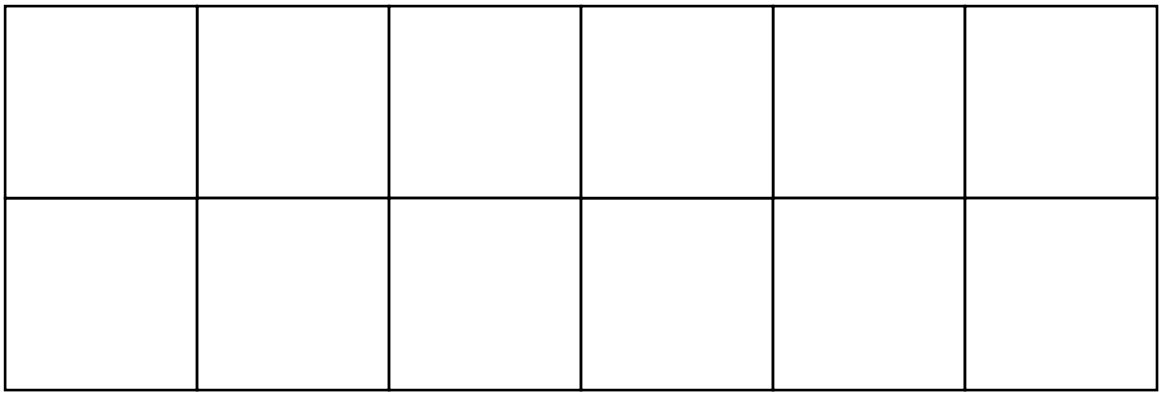
2 × 6 Rectangles







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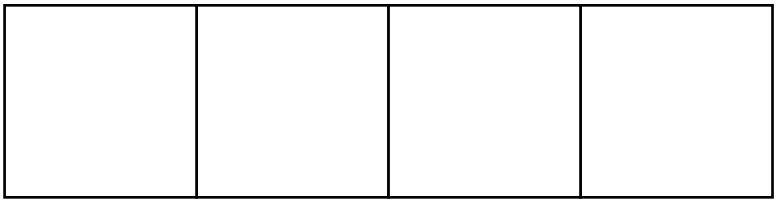
Shade the Shares

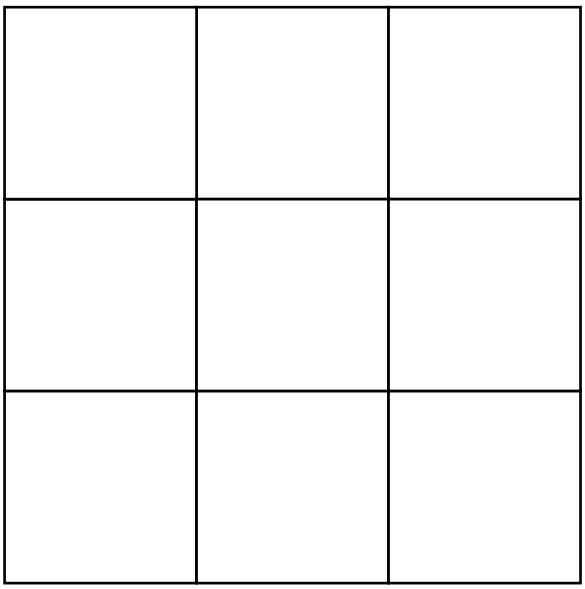
Homework

Color the parts described.

1. Show one of 2 equal shares by shading one-half of the rectangle.



2. Show one of 3 equal shares by shading one-third of the rectangle.



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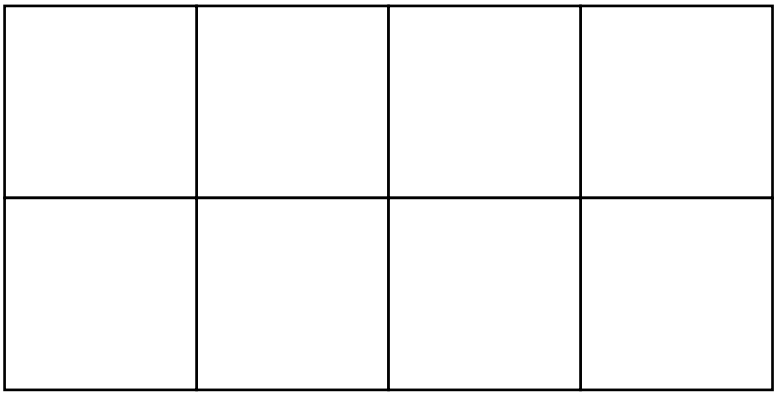
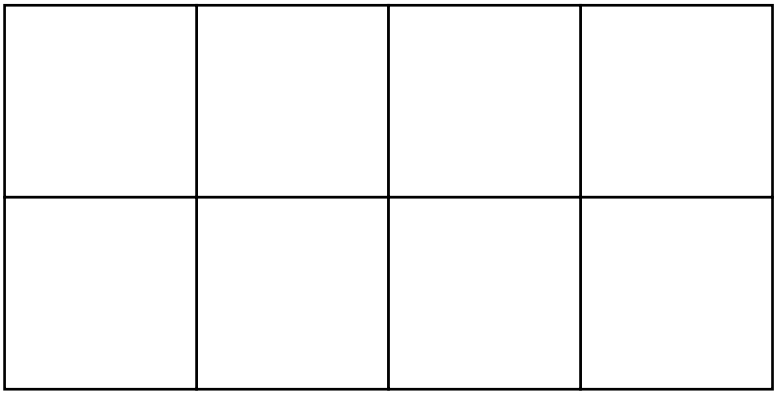
3. Show one of 4 equal shares by shading one-fourth of the rectangle.



4. **A.** This is the rectangle from Question 3. Shade one-fourth of the rectangle another way.



B. Show or tell how you know you shaded one-fourth of the rectangle in Question 4A.

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One-Half Plus One-Fourth 3

Homework

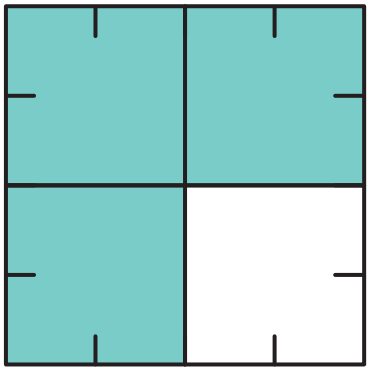
1. What part of Square A is shaded? _____

2. What part of Square C is shaded? _____

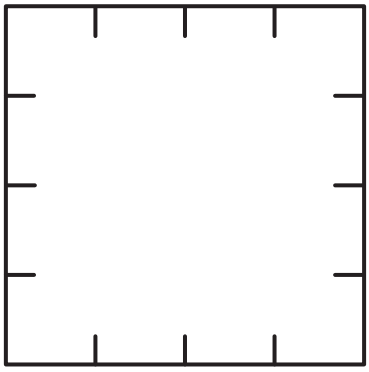
3. What part of Square D is shaded? _____

Cut out the shaded parts in Squares C and D. Then paste them on Square B to look like Square A.

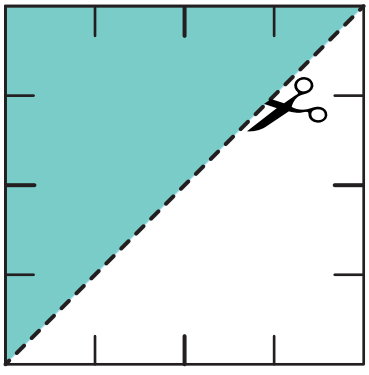
4. One-half plus one-fourth equals _____.



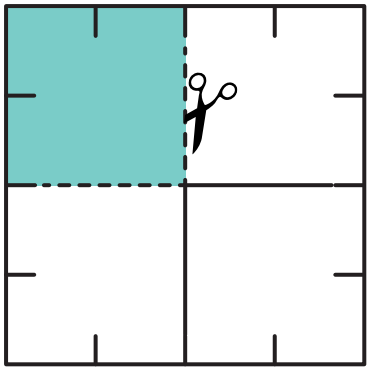
Square A



Square B



Square C



Square D

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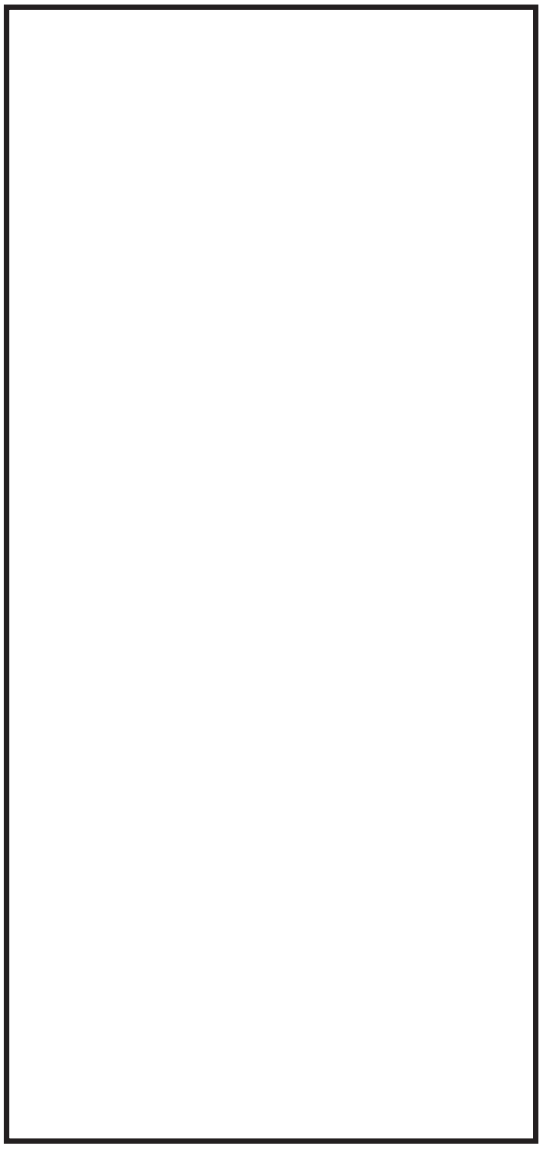
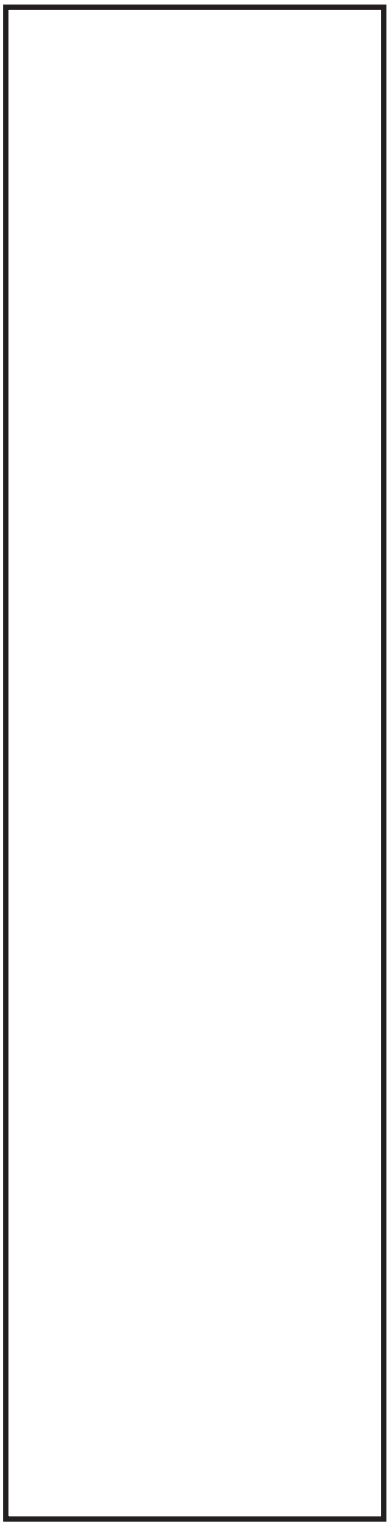
Measure Shapes



Shape A



Shape B

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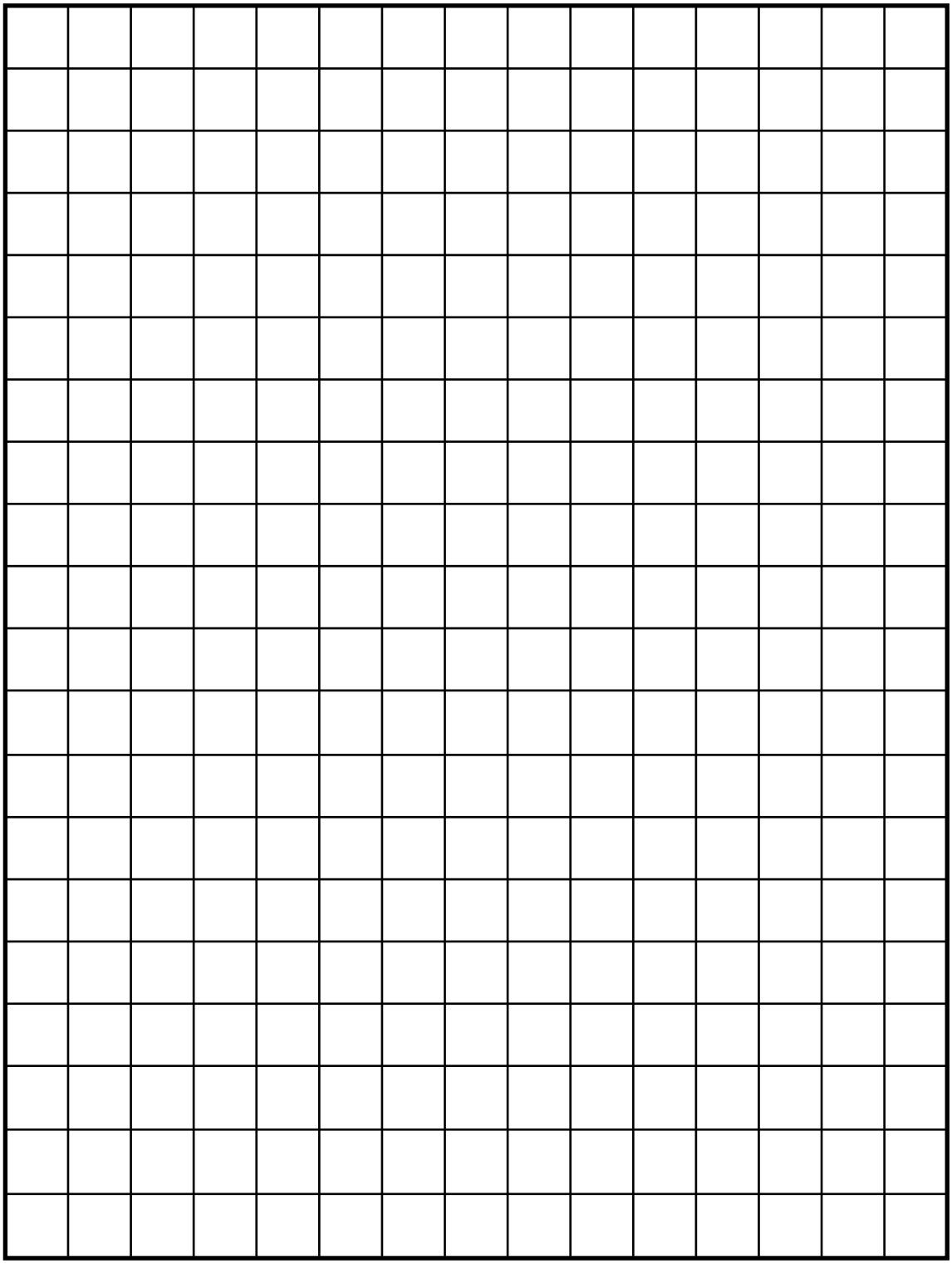
You Make the Shape

1. Draw two different shapes with an area of 10 and a half ($10\frac{1}{2}$) square centimeters.



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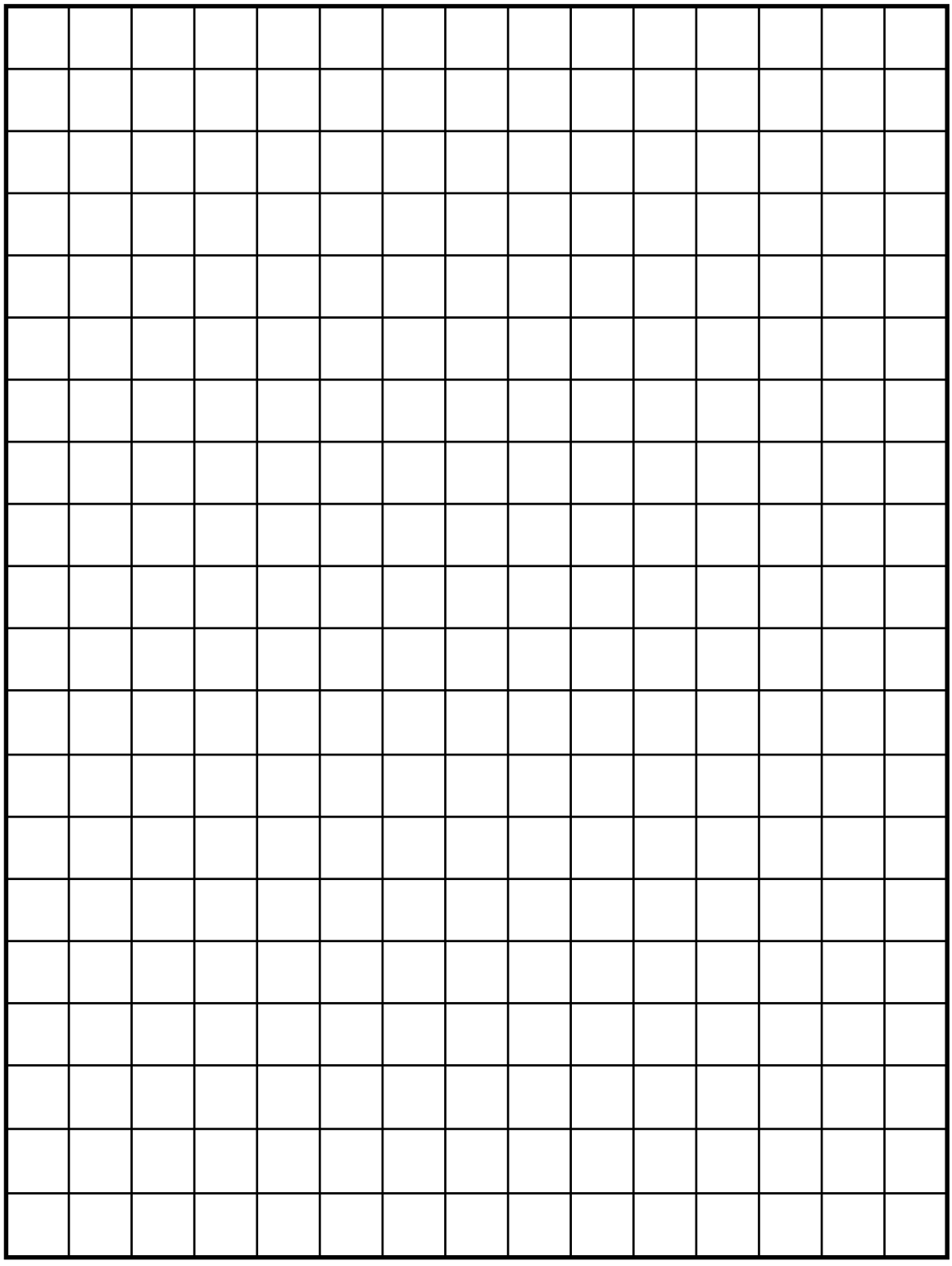
2. Draw 3 different shapes with an area of 25 sq cm. Can you make one shape a rectangle?



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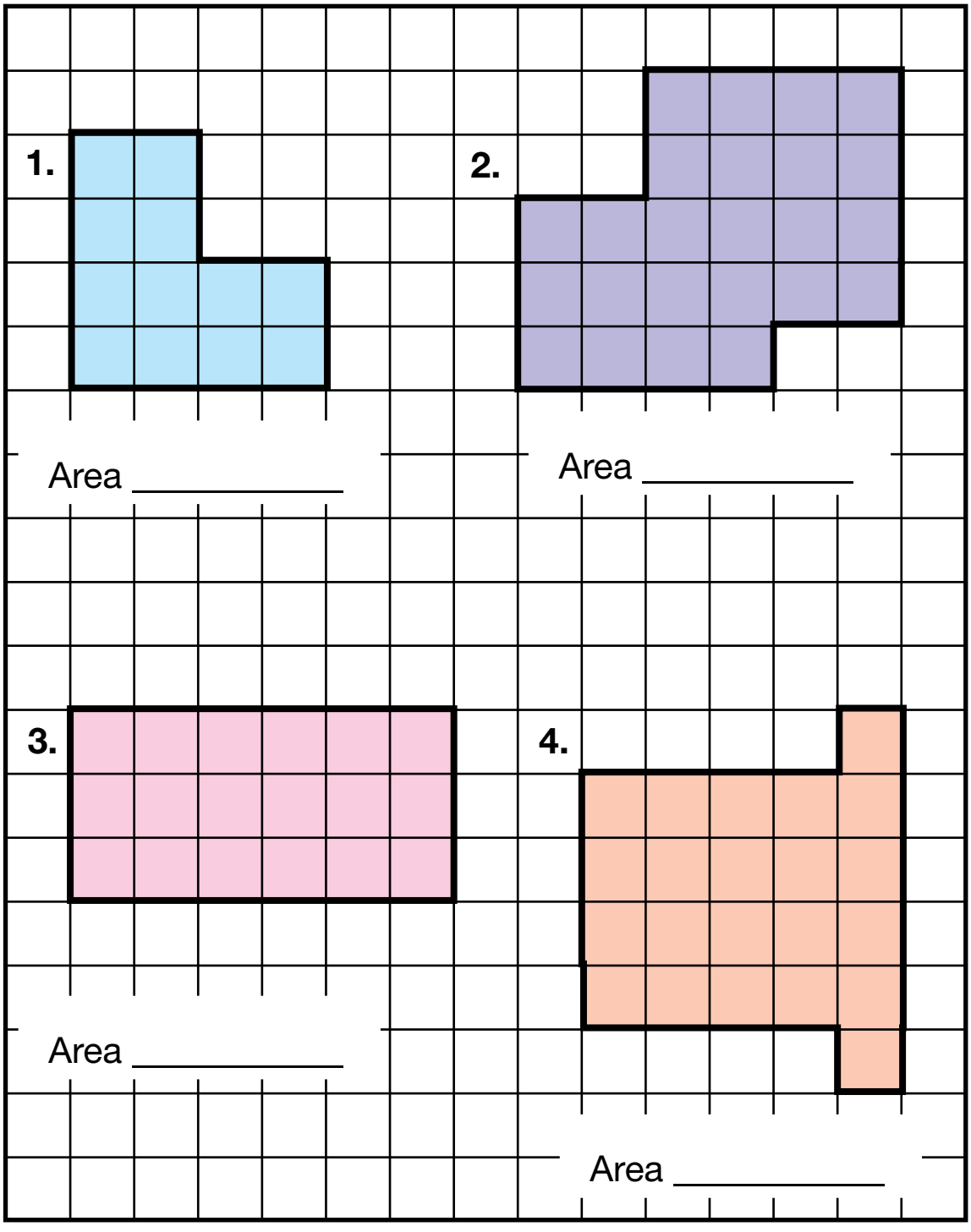
Find Area at Home

Homework

Find the area of the shapes. Label each shape with its area. Include units.



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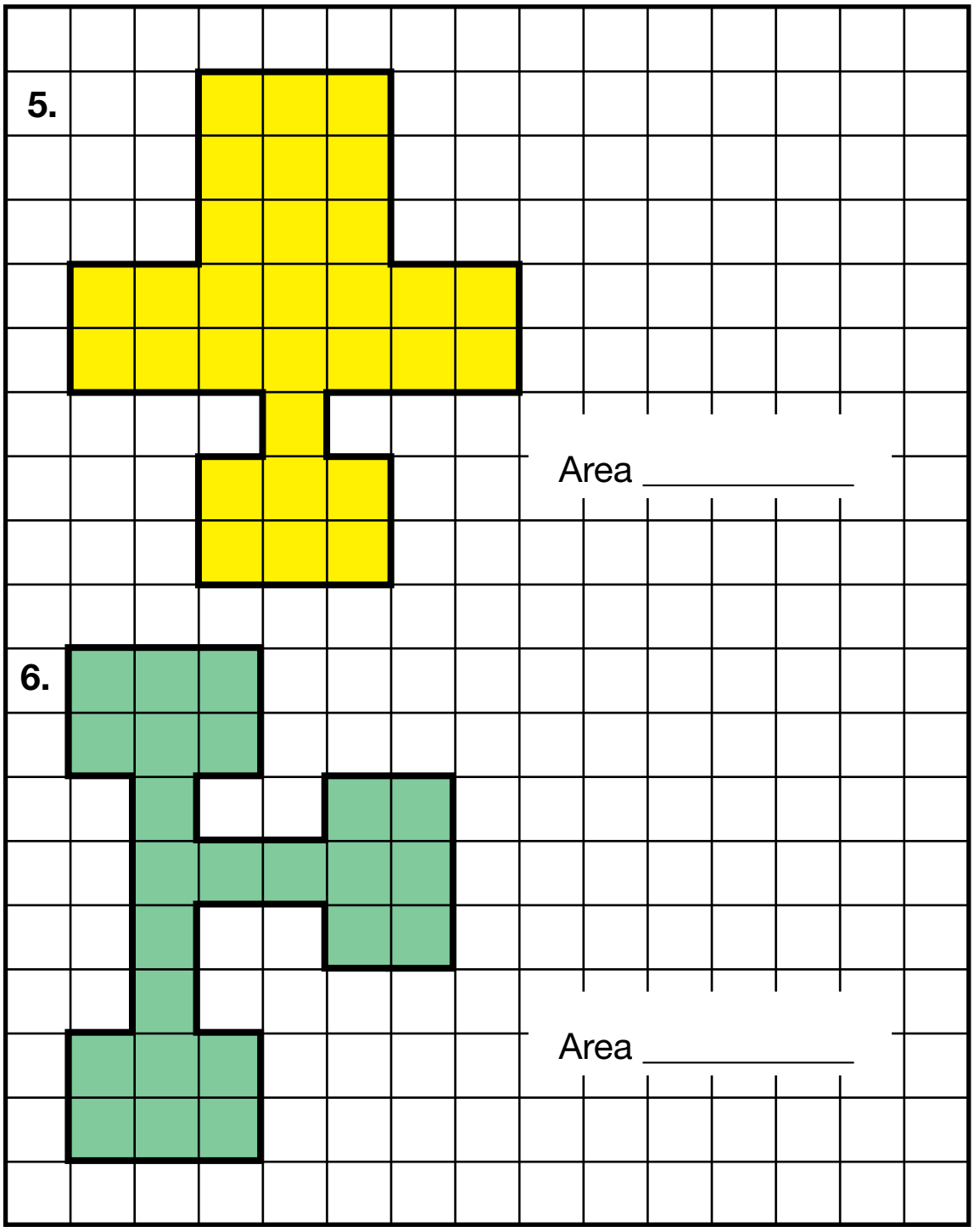

7. Explain how you found the area of the shape in Question 6.

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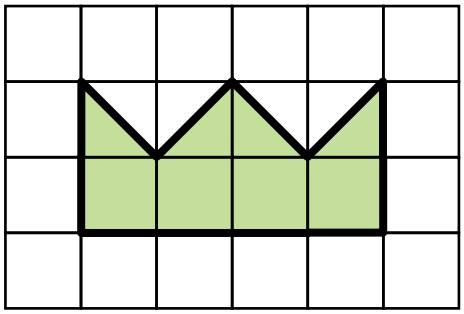
Shape Grids at Home

Homework

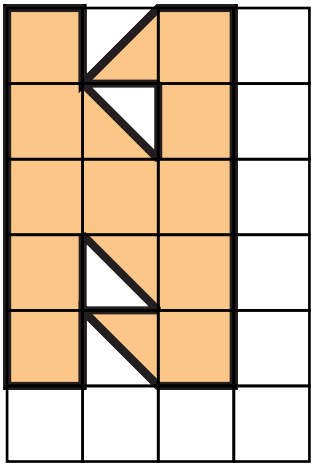
Find the area covered by each of the shapes shown.

1.



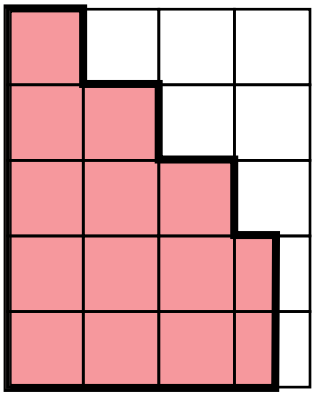
Area _____ sq cm

2.



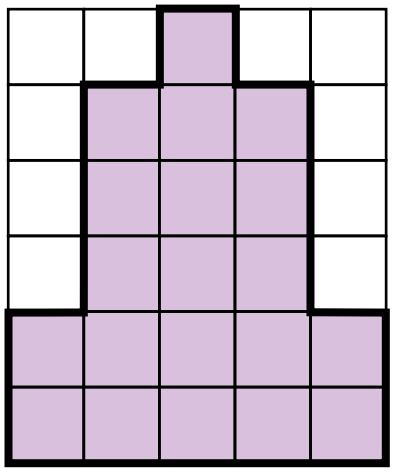
Area _____ sq cm

3.



Area _____ sq cm

4.



Area _____ sq cm

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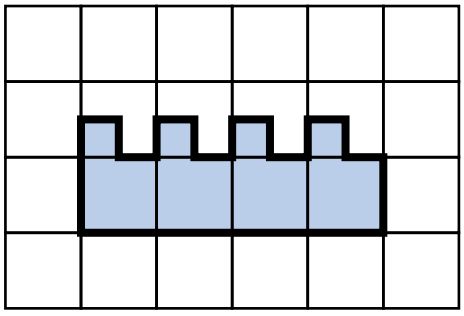
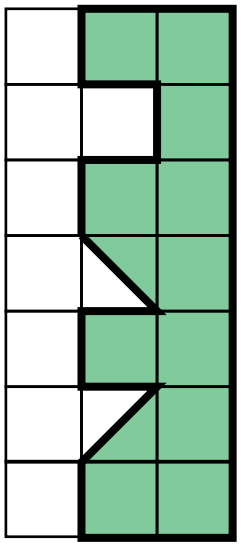
5.



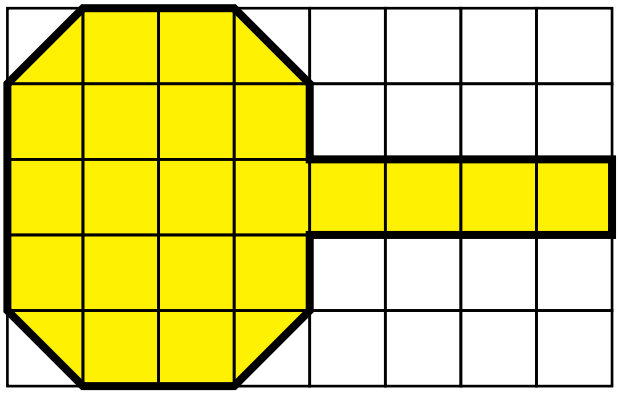
Area _____ sq cm

6.



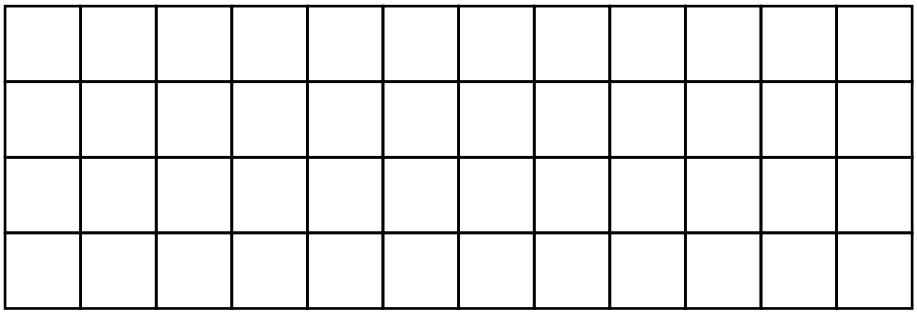
Area _____ sq cm

7.



Area _____ sq cm

8. Draw a shape with an area of nine and a half ($9\frac{1}{2}$) sq cm.



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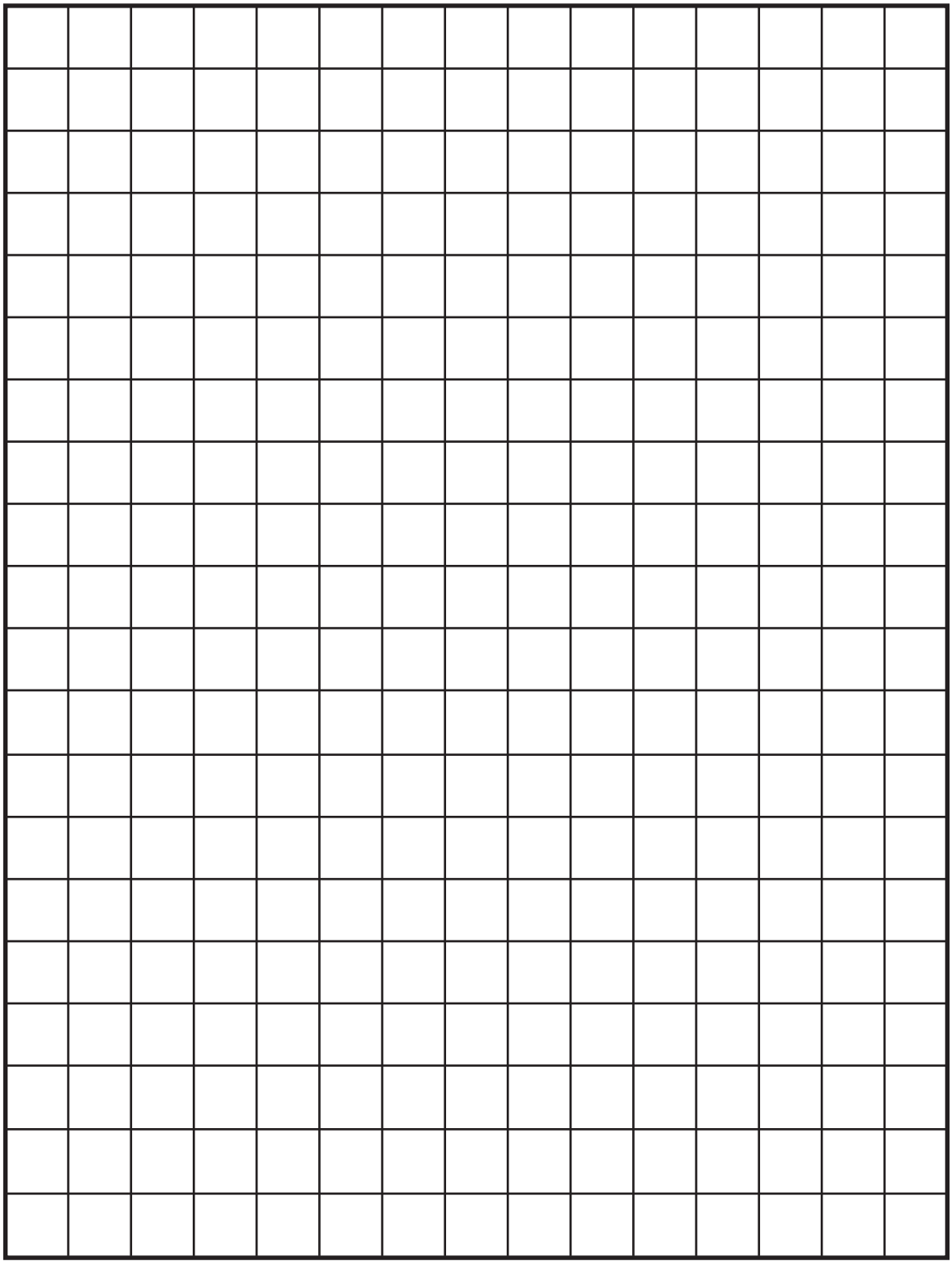

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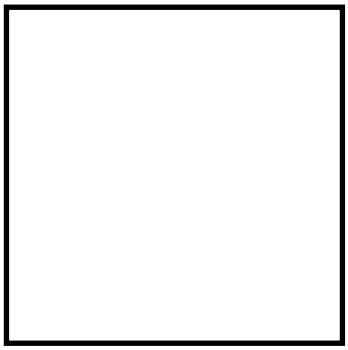
Put the Pieces Together

The square below is one square unit.



Place the pieces on the whole square to answer the questions below:

- How many halves equal one whole?
- How many fourths equal one whole?
- How many halves and fourths equal one whole?
- How many fourths equal one-half?

Ask someone to check each answer.

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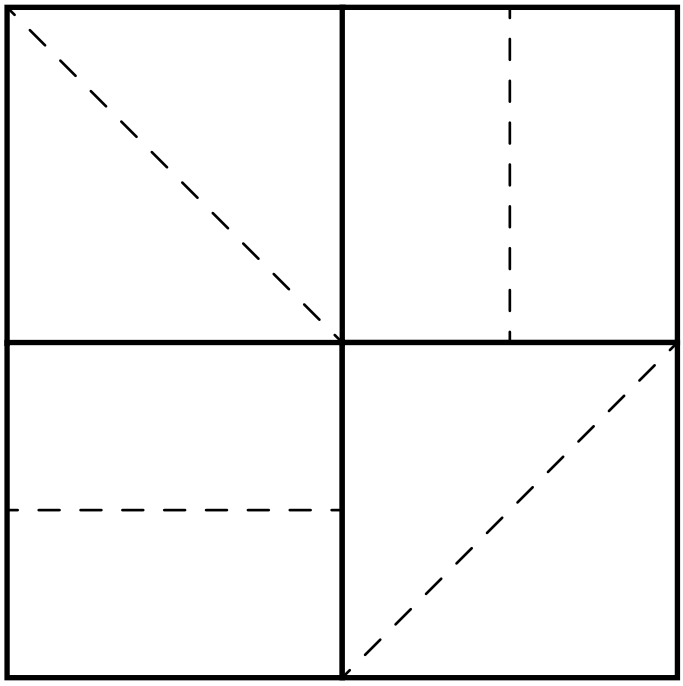
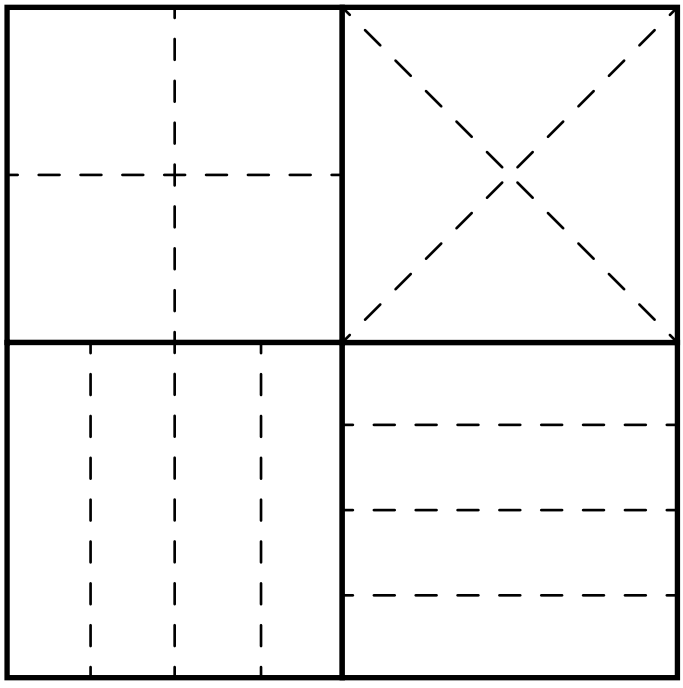
- Color the half pieces green and the fourth pieces red.
- Cut apart each of the squares.
- Then cut on the dotted line in each square.

Halves



Fourths



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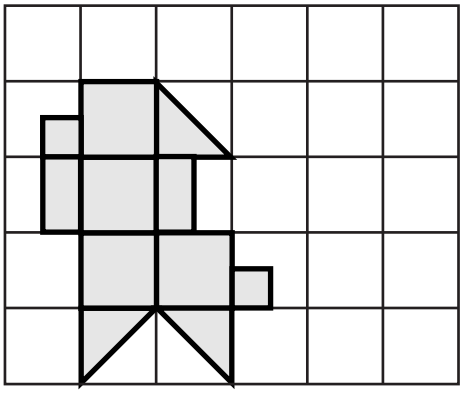
Area Riddles at Home

Homework

1. Count the ▭, ◺, ▯, and ▫ to find the area of this shape. Include labels.



Number of ▭ is _____

Number of ◺ is _____

Number of ▯ is _____

Number of ▫ is _____

Area _____

2. Draw a shape that fits this riddle. Then find its area. Include units.

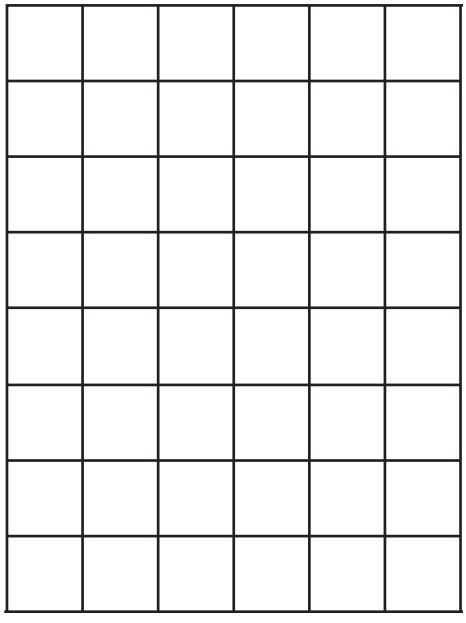
Number of ▭ is 6

Number of ◺ is 3

Number of ▯ is 2

Number of ▫ is 4

Area _____



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3. Draw a shape that fits this riddle. Then find its area. Include units.

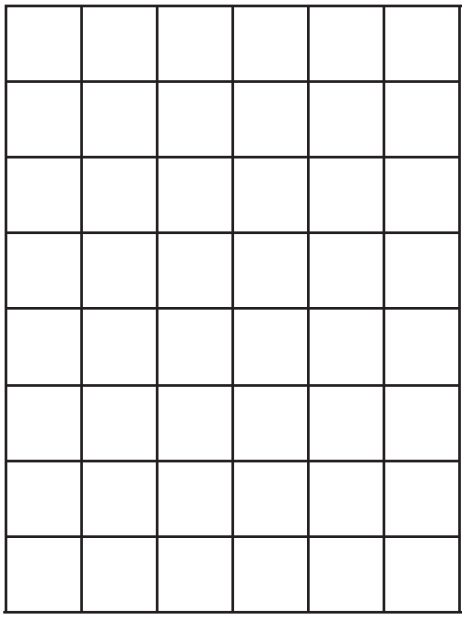
Number of is 3

Number of is 2

Number of is 2

Number of is 2

Area _____



one-half	one-fourth
sq cm	

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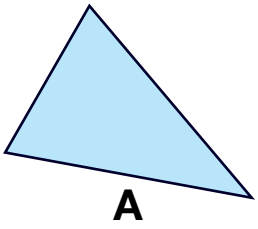
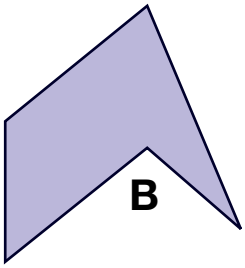
What Makes a Shape a Polygon

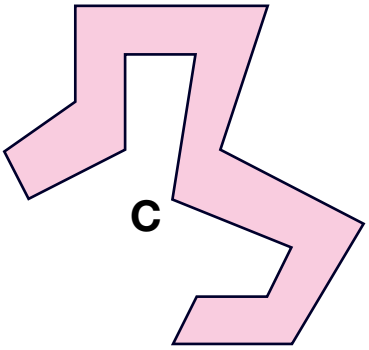
These shapes are polygons.



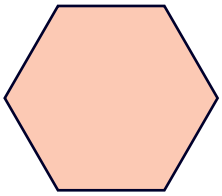
A



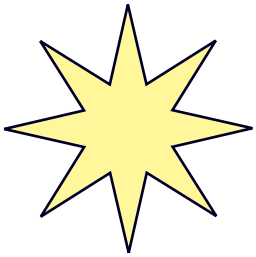
B



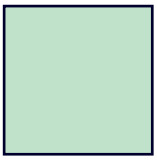
C



D

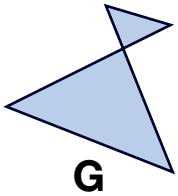


E

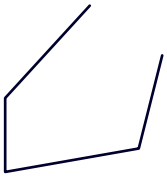


F

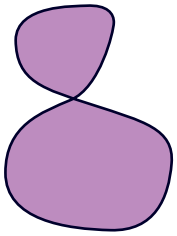
These shapes are *not* polygons.



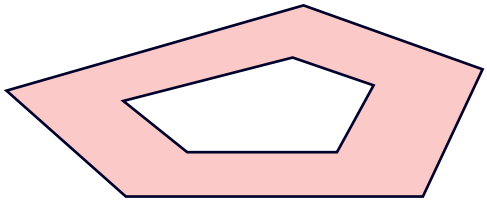
G



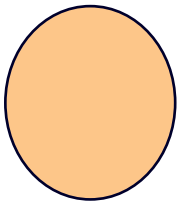
H



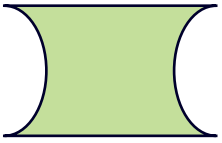
I



J



K



L

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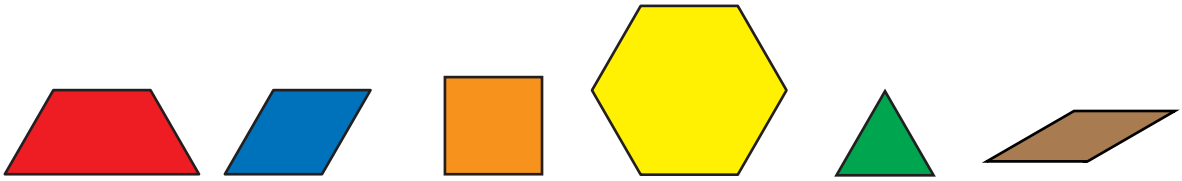
Shape Riddles

Homework

Look at the shapes and solve the riddles.



trapezoid | blue rhombus | square | hexagon | triangle | tan rhombus

1. I have four sides. They are all the same length. What shape(s) can I be?

_____

2. My four sides are the same length. I also have square angles or square corners. What shape(s) can I be?

_____

3. Two of my sides are parallel to one another. The other two sides are not. What shape(s) can I be?

_____

4. All of my sides are the same length. All my angles, or corners, look the same too. What shape(s) can I be?

_____

5. Write your own shape riddle on the back of this page.

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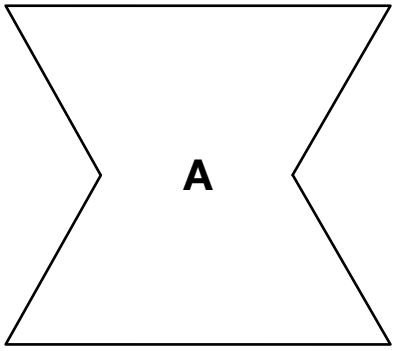
Think About Shapes at Home

Homework

Look at each shape and the statements. Circle the true statements.

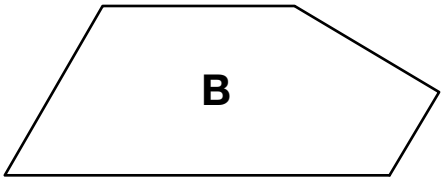
1.



Shape A has 4 sides.

Shape A has 6 sides.

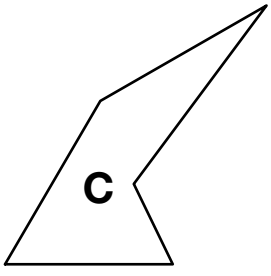
2.



Shape B has 5 angles.

Shape B has 4 angles.

3.



Shape C has a right angle.

Shape C does not have a right angle.

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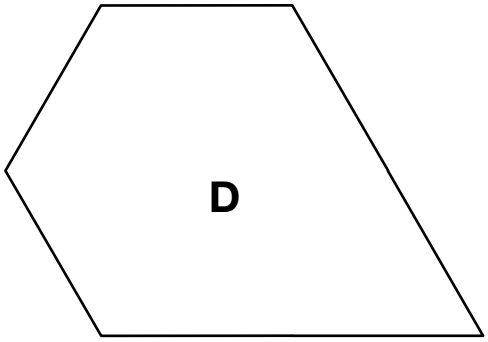
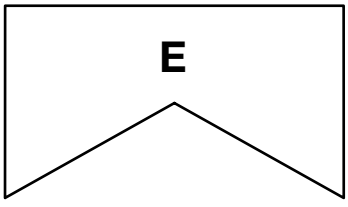
4. Look at Shape D.



How many sides does Shape D have? _____

5. Look at Shape E.



How many angles does Shape E have? _____

6. **A.** Draw a polygon (closed shape with straight sides).

B. My polygon has _____ sides and _____ angles.

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My Shape Riddles

Choose a shape card from the *Fill in the Shapes* pages in the *Student Activity Book*. Use words from the Word Bank to write clues about the shape. Write the answers to the riddles on the back of the page. Exchange the riddles with a partner and solve them.

Word Bank

angle
corners
equal
hexagon
line
opposite sides
parallel sides
pentagon
quadrilateral
rhombus
right angle
shape
side
square
trapezoid
triangle

Riddle 1: _____

_____

_____

_____

Riddle 2: _____

_____

_____

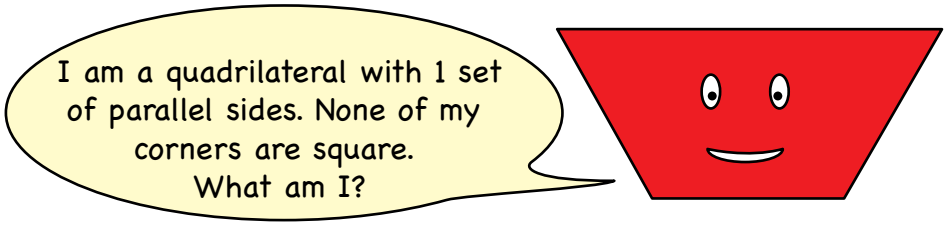
_____

Riddle 3: _____

_____

_____

_____



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