Name .....

MY Homework

Lesson 1
Hands On: Angles

Homework Helper

eHelp

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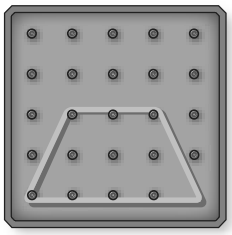
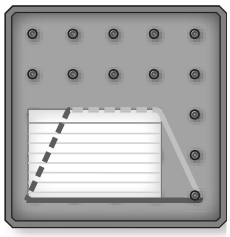
Geoboards and pattern blocks help to explore angles.

1. A rubber band was used to create a large shape on a geoboard that is similar to the red pattern block.



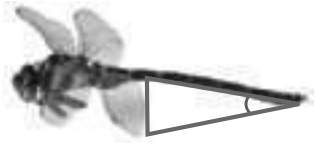
2. An index card was used to compare an angle formed by two sides of the shape. This angle is *less than* a right angle.



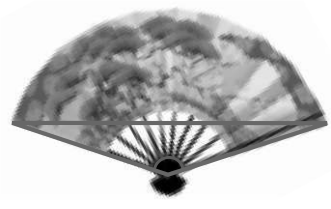
There are 2 angles that are *less than* right angles.
There are 2 angles that are *greater than* right angles.

Practice

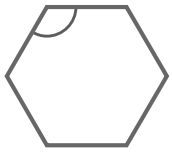
Tell whether each angle shown is a *right angle, less than* a right angle, or *greater than* a right angle. Use an index card if needed.

1. 

less than

2. 

greater than

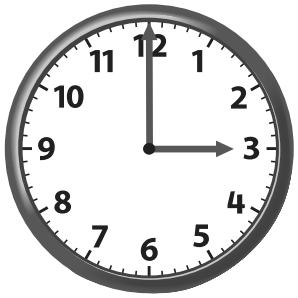
3. 

greater than

Problem Solving Sample answers: 4, 6

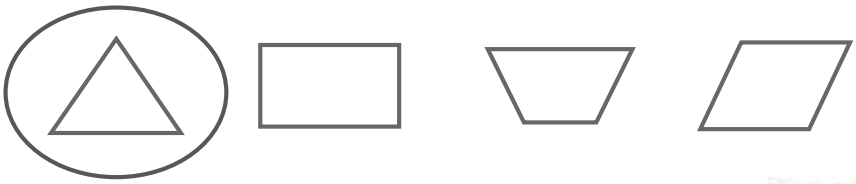
Mathematical PRACTICE 1

4. Keep Trying Draw a time when the hands on the clock make a right angle.



Mathematical PRACTICE 7

5. Identify Structure Mr. West drew four shapes on the board. Circle the shape that appears to have angles that are all less than a right angle.



6. Manny noticed that the sides of his poster on his bedroom wall formed angles. Tell whether the angles are *right* angles, *less than* right angles, or *greater than* right angles. Explain.

All of the angles are right angles because each angle forms a square corner.

Vocabulary Check

Vocab

Choose the correct word(s) to complete each sentence.

angle ray endpoint vertex right angle

7. The shared endpoint of two rays is called the **vertex**.

8. An **endpoint** is the point at the beginning of a ray.

9. An angle that forms a *square corner* is called a **right angle**.

Name .....

Geometry
3.G.1
CCSS

MY Homework

Lesson 2
Polygons

Homework Helper

eHelp

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The front of the bird house shown has the shape of a polygon. Describe and classify the polygon.

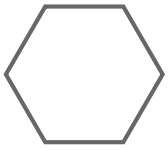
The polygon has 5 sides and 5 angles.

It is a pentagon.

Practice

Describe each shape. Determine the number of sides and angles. Then classify each shape.

1.

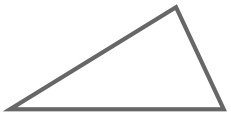


6 sides

6 angles

This is a(n) hexagon.

2.

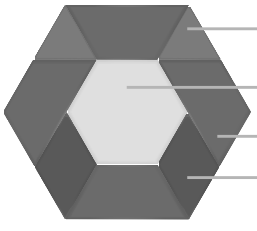


3 sides

3 angles

This is a(n) triangle.

3. Mathematical PRACTICE 7 **Identify Structure** Classify the polygons that are used to create the figure shown.

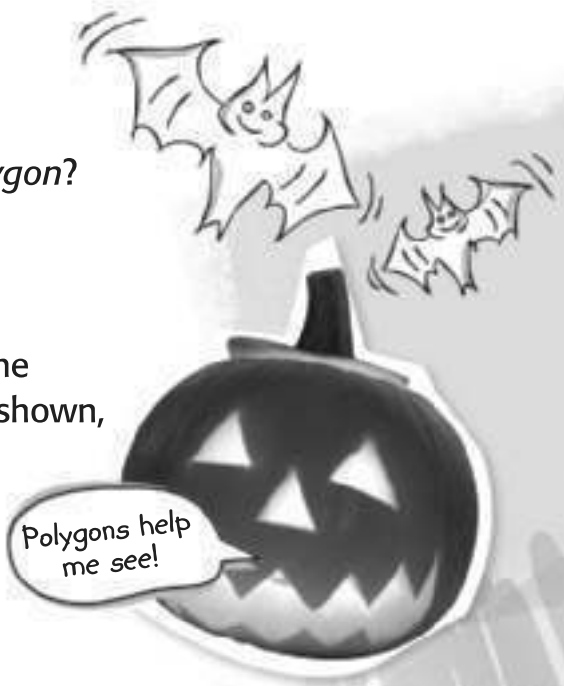


triangle

hexagon

quadrilaterals

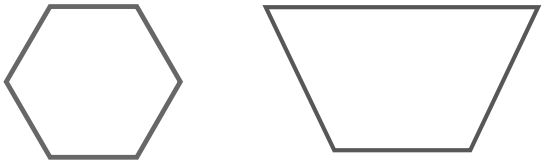
Problem Solving



4. What is another name for a square, other than *polygon*?

quadrilateral

5. Mathematical PRACTICE 5 **Use Math Tools** Draw and label the polygon you would get when you fold the hexagon shown, in half along the dotted line.



quadrilateral

6. Is the figure shown to the right a polygon? Explain.

No; Sample answer: polygons only have straight lines.

Vocabulary Check

Vocab

Choose the correct word to complete each sentence.

hexagon polygon quadrilateral

7. A polygon is a closed two-dimensional figure formed of three or more straight sides that do not cross each other.

8. A hexagon is a polygon with 6 sides and 6 angles.

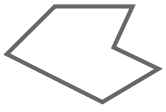
9. A quadrilateral is a polygon with 4 sides and 4 angles.

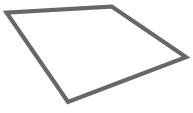
Test Practice

10. Which of the following figures is a hexagon?

Ⓐ 

Ⓑ 

● Ⓒ 

Ⓓ 

Name .....

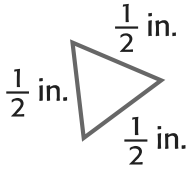
MY Homework

Lesson 3
Hands On: Triangles

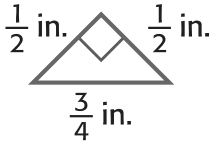
Homework Helper

eHelp Need help? connectED.mcgraw-hill.com

Measure the sides of each triangle below to the nearest quarter of an inch. Then state the number of sides with equal lengths.

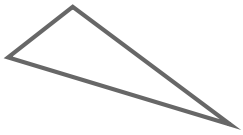


The triangle has 3 sides with equal lengths.

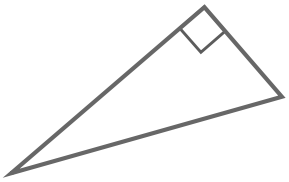


The triangle has 2 sides with equal lengths.

Compare the angles of each triangle. Then describe the triangle using its angles.



The triangle has 1 angle that is greater than a right angle.



The triangle is a right triangle.

Practice

Measure the sides of each triangle below to the nearest quarter of an inch. Then state the number of sides with equal lengths.

1. $\frac{3}{4}$ in. $\frac{3}{4}$ in. 1 in.

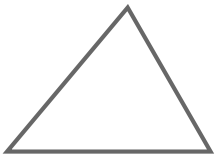
2 sides

2. $\frac{1}{2}$ in. $1\frac{1}{4}$ in. 1 in.

0 sides

Compare the angles of each triangle. Then circle the correct description.

3.



(3 angles are less than a right angle)

3 angles greater than a right angle

1 right angle.

4.

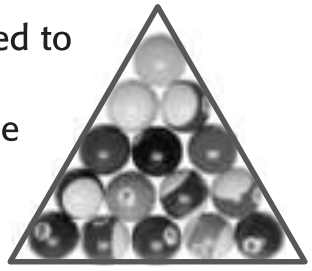
3 angles greater than a right angle

(1 angle is greater than a right angle)

Problem Solving

Mathematical PRACTICE 6 **Be Precise**

5. In billiards, a rack is used to organize billiard balls at the beginning of the game. Measure the sides of the triangle shown. What is the length of each side to the nearest quarter inch?

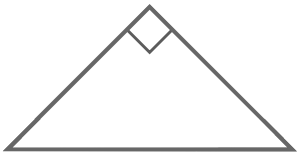


$1\frac{1}{2}$ inches

6. Refer to Exercise 5. How many angles are less than a right angle?

3 angles

7. How many angles are less than a right angle in the triangle shown at the right?

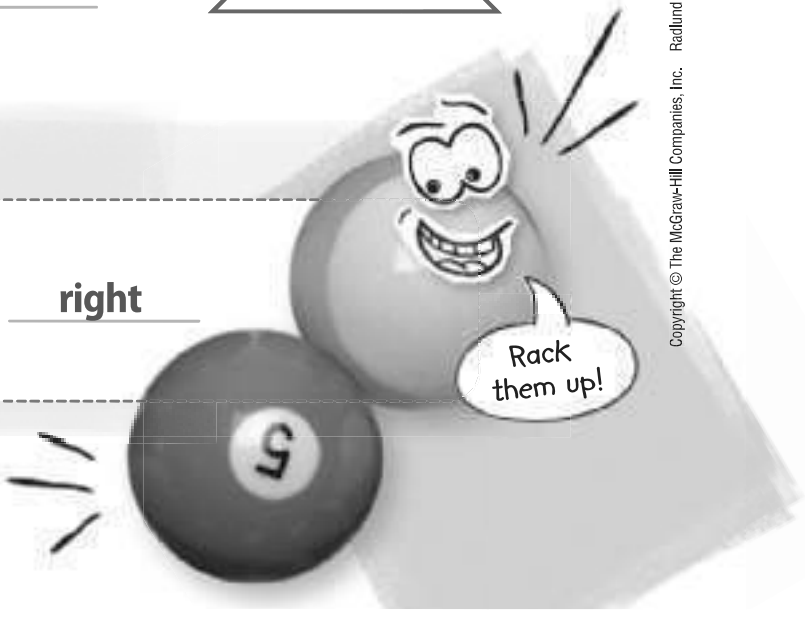


2 angles

Vocabulary Check

Fill in the missing word.

8. A triangle with one right angle is called a **right** triangle.



Name .....

MY Homework

Lesson 4
Quadrilaterals

Homework Helper

eHelp

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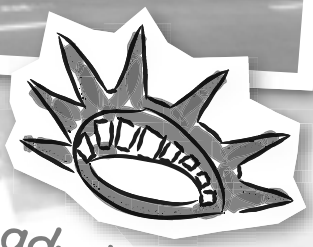
A tour bus is shown at the right. Describe the attributes of the quadrilateral outlined in yellow. Then classify it.

The quadrilateral has opposite sides that are equal in length and parallel.

It has four right angles.

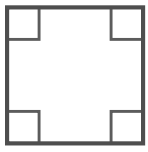
So, the quadrilateral is a rectangle.



Lady Liberty!

Practice

Describe the attributes of each quadrilateral. Then classify the quadrilateral.

1. 

There are 4 right angles and 4 equal sides. Opposite sides are parallel; square

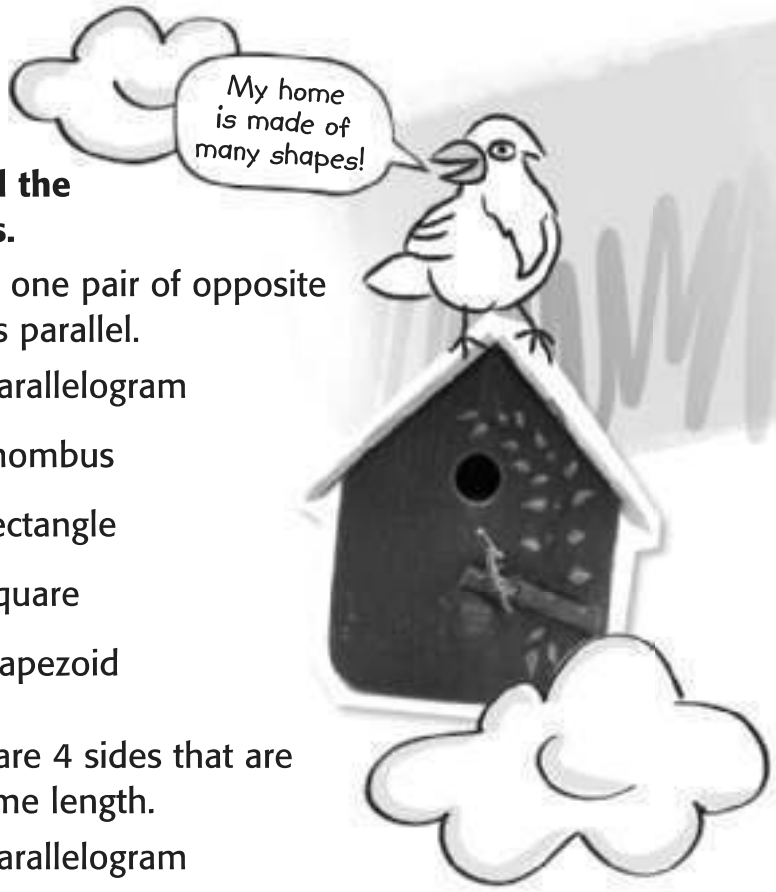
2. 

One pair of parallel sides; trapezoid

3. Circle the quadrilateral(s) that do *not* have all the attributes of a parallelogram.

rectangle rhombus square (trapezoid)

Problem Solving



Mathematical PRACTICE 7 **Identify Structure** **Check all the quadrilaterals that have the given attributes.**

4. Both pairs of opposite sides are parallel.

- [x] parallelogram
- [x] rhombus
- [x] rectangle
- [x] square
- [ ] trapezoid

5. Exactly one pair of opposite sides is parallel.

- [ ] parallelogram
- [ ] rhombus
- [ ] rectangle
- [ ] square
- [x] trapezoid

6. There are four right angles.

- [ ] parallelogram
- [ ] rhombus
- [x] rectangle
- [x] square
- [ ] trapezoid

7. There are 4 sides that are the same length.

- [ ] parallelogram
- [x] rhombus
- [ ] rectangle
- [x] square
- [ ] trapezoid

Vocabulary Check

Vocab

Fill in each blank with a word that makes each sentence true.

8. A square is a parallelogram with ___four___ right angles and four sides that are the same length.

9. Sides that are the same distance apart are ___parallel___ sides.

Test Practice

10. Which of these shapes appears to be a quadrilateral, but *not* a parallelogram?

Ⓐ 

Ⓑ 

Ⓒ 

Ⓓ 

Name _____

MY Homework

Lesson 5
Shared Attributes of Quadrilaterals

Homework Helper

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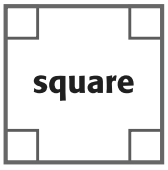
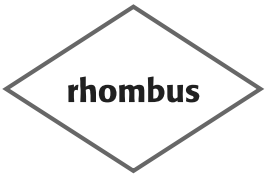
The attributes of the quadrilaterals that you learned about in Lesson 4 were used to create the table.





Attribute	Quadrilateral(s)
Both pairs of opposite sides have the same length.	parallelogram, rectangle, square, rhombus
Both pairs of opposite sides are parallel.	parallelogram, rectangle, square, rhombus
Opposite angles are the same size.	parallelogram, rectangle, square, rhombus

Each quadrilateral has 4 sides and 4 angles.

Practice

1. Complete the attributes of a rectangle.

Opposite sides are parallel.

Opposite sides are the same length.

The figure has 4 right angles.

2. Circle the quadrilateral(s) that have all the attributes of a rectangle.

trapezoid parallelogram (square) rhombus

Problem Solving

Mathematical PRACTICE 2 **Reason** State whether the following statement is *true* or *false*. If false, explain why.

3. A trapezoid can also be classified as a parallelogram because it has parallel sides.

false; Sample answer: A trapezoid has exactly one pair of opposite parallel sides, while a parallelogram has both pairs of opposite parallel sides.

For Exercises 4–6, draw a quadrilateral that has the given attributes in the space provided.

4. opposite sides are parallel

5. four right angles

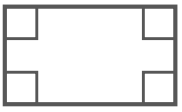
6. four sides of equal length

My Drawing!

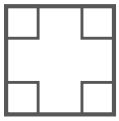
Sample answers:

4.

5.



6.



Test Practice

7. Which statement about the figures shown below is true?

Ⓐ Figures 1 and 2 are parallelograms.

Ⓑ Figures 1 and 4 are quadrilaterals.

Ⓒ Figures 1 and 2 are rectangles.

Ⓓ Figures 1 and 3 are parallelograms.

Name .....

MY Homework

Lesson 6
Problem Solving: Guess, Check, and Revise

Homework Helper

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Cassandra and Shawnel are the same age. Tonya is 3 years older than Cassandra. If you add all their ages together, the sum is 39. What is the age of each girl?

1 Understand

What facts do you know?

- Cassandra and Shawnel are the same age.
- Tonya is 3 years older than Cassandra.
- The sum of their ages is 39.

What do you need to find?

- Find the ages of each girl.

2 Plan

Guess, check, and revise to solve the problem.

3 Solve

Make a guess, then check. Use what you find to revise.

Cassandra's Age	Shawnel's Age	Tonya's Age	Sum of Ages	Check
10	10	13	33	too low
15	15	18	48	too high
12	12	15	39	correct

So, Cassandra and Shawnel are each 12 years old and Tonya is 15 years old.

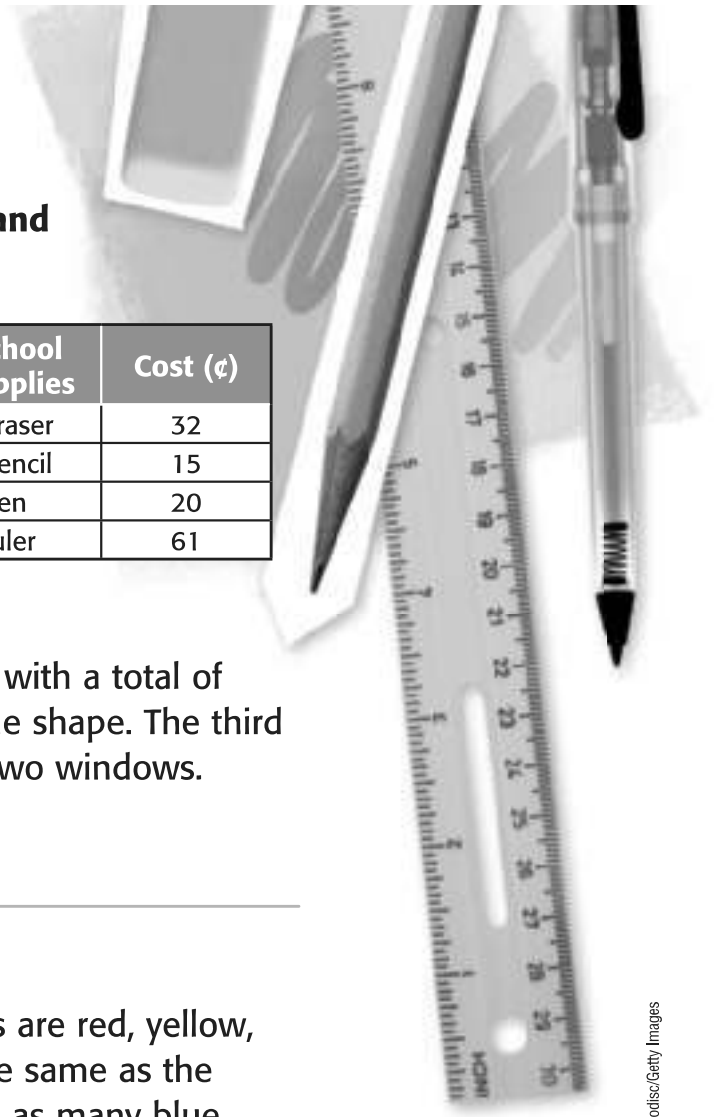
4 Check

Is my answer reasonable? Explain.

Add their ages to check. $12 + 12 + 15 = 39$

Problem Solving

Mathematical PRACTICE 1 Make a Plan **Guess, check, and revise to solve each problem.**



1. Mei bought two items. She spent exactly 93¢. What did she buy?

eraser, ruler

School Supplies	Cost (¢)
eraser	32
pencil	15
pen	20
ruler	61

2. A house has 3 windows that are polygons with a total of 13 sides. Two of the windows are the same shape. The third window has one more side than the first two windows. What specific shapes are the windows?

2 quadrilaterals and 1 pentagon

3. There are 20 crayons in a bag. The crayons are red, yellow, and blue. The number of red crayons is the same as the number of yellow crayons. There are twice as many blue crayons as yellow crayons. How many of each color are there?

5 red, 5 yellow, 10 blue crayons

4. Dolores bought some new pillows. She bought twice as many green pillows as blue pillows, and 1 less red pillow than green pillows. She bought a total of 9 pillows. How many pillows of each color did she buy?

2 blue, 4 green, 3 red pillows

5. Andrew has a combination of 8 quarters, dimes, and nickels that add up to a value of 95¢. How many of each coin does Andrew have?

2 quarters, 3 dimes, 3 nickels

Name .....

MY Homework

Lesson 7
Partition Shapes

Homework Helper

eHelp

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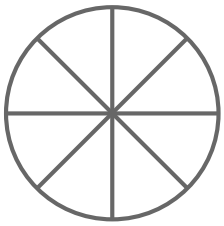
Cassie made a pie to take to the family reunion. If she wants to partition the pie into 8 equal pieces, what fraction of the pie's area will each piece represent?

1 The circle represents the pie's area.



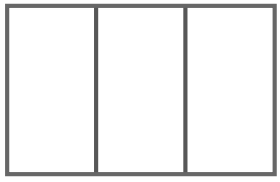
2 Partition the circle into 8 equal sections.

The fraction of the pie's area that each piece represents is $\frac{1}{8}$.

Practice Sample partitions: 1–4

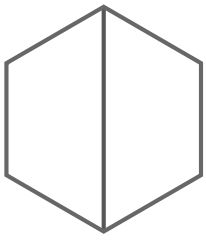
Partition each figure as indicated. Then write the unit fraction of the figure's area that each equal section represents.

1. 3 equal sections



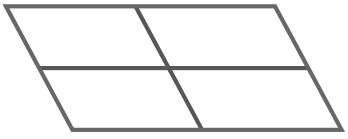
$\frac{1}{3}$

2. 2 equal sections



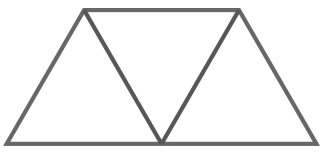
$\frac{1}{2}$

3. 4 equal sections



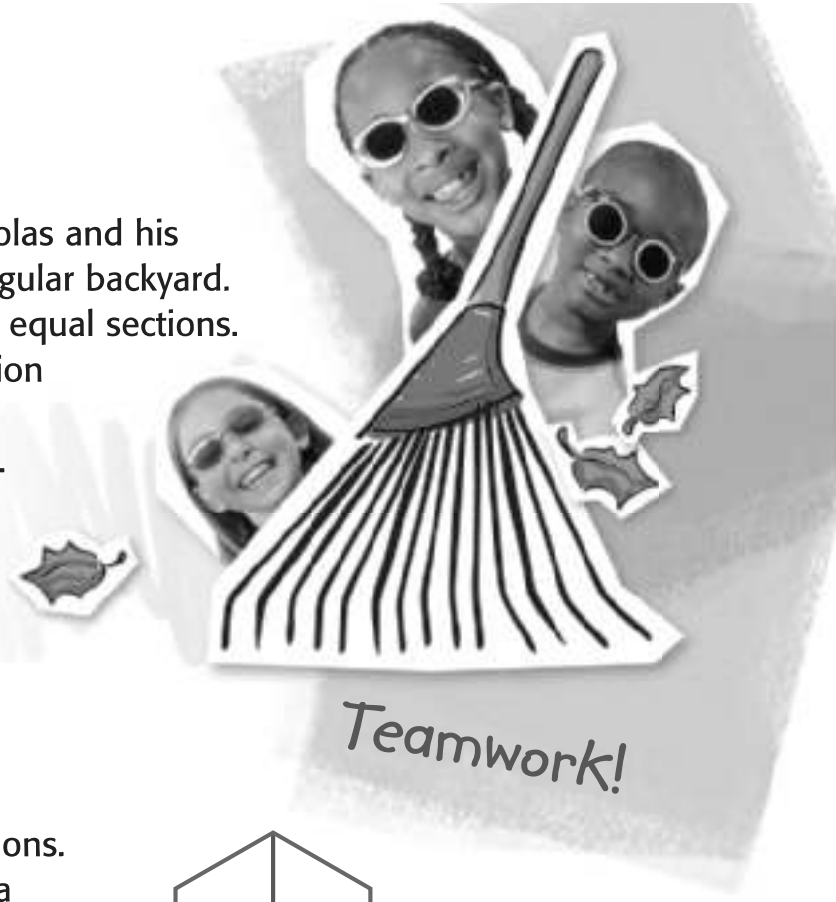
$\frac{1}{4}$

4. 3 equal sections

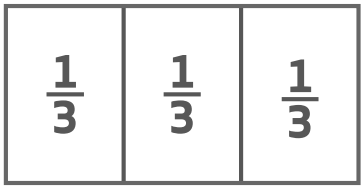


$\frac{1}{3}$

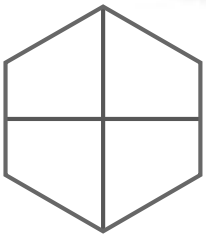
Problem Solving



Mathematical PRACTICE 5 **Use Math Tools** **5.** Nicholas and his 2 friends are raking leaves in his rectangular backyard. They decide to partition the yard into 3 equal sections. Each friend will rake one section. Partition the rectangle into 3 equal sections. Label each section with its unit fraction.



6. Partition the hexagon into 4 equal sections. What unit fraction of the hexagon's area does each section represent?



Sample answer: $\frac{1}{4}$

Mathematical PRACTICE 2 **Reason** **7.** Draw a circle. Partition the circle into six equal sections. What unit fraction of the total area is each section?

$\frac{1}{6}$; **See students' drawings.**

Test Practice

8. For art class, each student was given a piece of paper in the shape of a rectangle. Mrs. Brucker asked the students to partition the paper into 8 equal sections. What unit fraction of the paper's area will each section have?

Ⓐ $\frac{1}{2}$

Ⓑ $\frac{1}{3}$

Ⓒ $\frac{1}{6}$

● Ⓓ $\frac{1}{8}$