

**Week 6**  
**Math/Science Work**  
 Week of: May 4-May 8

Name: \_\_\_\_\_

Grade: \_\_\_\_\_

Teacher: \_\_\_\_\_

Date:	Work:	Standards:
Monday (5-4)	Math: <ul style="list-style-type: none"> <li>• Lesson 11.8- Area of Combined Rectangles Page 463-466</li> </ul> Science: <ul style="list-style-type: none"> <li>• Paired Texts: "Seeds Need to Move" and "What Do Plants Need?" ReadWorks passages and questions</li> <li>• Watch BrainPOP Jr. on "Plant Life Cycle"</li> </ul>	<b>MAFS.3.MD.3.7c</b> <b>MAFS.3.MD.3.7d/b</b> MAFS.3.MD.3.5/a/b MAFS.3.OA.1.3 MAFS.3.OA.3.7 MAFS.3.NBT.1.2 <b>MAFS.3.MD.4.8</b> SC.3.L.14.1
Tuesday (5-5)	Math: <ul style="list-style-type: none"> <li>• Lesson 11.8- Area of Combined Rectangles Standard Practice Page P229-P230</li> </ul> Science: <ul style="list-style-type: none"> <li>• Paired Texts: "Seeds Need to Move" and "What Do Plants Need?" ReadWorks passages and questions</li> <li>• Watch BrainPOP Jr. on "Plant Life Cycle"</li> </ul>	<b>MAFS.3.MD.3.7c</b> <b>MAFS.3.MD.3.7d/b</b> MAFS.3.MD.3.5/a/b MAFS.3.OA.1.3 MAFS.3.OA.3.7 MAFS.3.NBT.1.2 <b>MAFS.3.MD.4.8</b> SC.3.L.14.1
Wednesday (5-6)	Math: <ul style="list-style-type: none"> <li>• Lesson 11.9- Same Perimeter, Different Areas Page 467-470</li> </ul> Science: <ul style="list-style-type: none"> <li>• Paired Texts: "Seeds Need to Move" and "What Do Plants Need?" ReadWorks passages and questions</li> <li>• Watch BrainPOP Jr. on "Plant Life Cycle"</li> </ul>	<b>MAFS.3.MD.3.7c</b> <b>MAFS.3.MD.3.7d/b</b> MAFS.3.MD.3.5/a/b MAFS.3.OA.1.3 MAFS.3.OA.3.7 MAFS.3.NBT.1.2 <b>MAFS.3.MD.4.8</b> SC.3.L.14.1
Thursday (5-7)	Math: <ul style="list-style-type: none"> <li>• Lesson 11.9- Same Perimeter, Different Areas Standard Practice Page P231-P232</li> </ul> Science: <ul style="list-style-type: none"> <li>• Paired Texts: "Seeds Need to Move" and "What Do Plants Need?" ReadWorks passages and questions</li> <li>• Watch BrainPOP Jr. on "Plant Life Cycle"</li> </ul>	<b>MAFS.3.MD.3.7c</b> <b>MAFS.3.MD.3.7d/b</b> MAFS.3.MD.3.5/a/b MAFS.3.OA.1.3 MAFS.3.OA.3.7 MAFS.3.NBT.1.2 <b>MAFS.3.MD.4.8</b> SC.3.L.14.1
Friday (5-8)	Math: <ul style="list-style-type: none"> <li>• Lesson 11.10- Same Area, Different Perimeters and Standard Practice Page 471-474 AND P233-P234</li> </ul> Science: <ul style="list-style-type: none"> <li>• Paired Texts: "Seeds Need to Move" and "What Do Plants Need?" ReadWorks passages and questions</li> <li>• Watch BrainPOP Jr. on "Plant Life Cycle"</li> </ul>	<b>MAFS.3.MD.3.7c</b> <b>MAFS.3.MD.3.7d/b</b> MAFS.3.MD.3.5/a/b MAFS.3.OA.1.3 MAFS.3.OA.3.7 MAFS.3.NBT.1.2 <b>MAFS.3.MD.4.8</b> SC.3.L.14.1

# Seeds Need to Move

by Rachelle Kreisman



A plant starts life as a seed. When that seed grows into a plant, that plant makes new seeds. Those seeds, too, can grow and turn into more new plants.

But did you know that not every seed grows into a plant? To become a plant, a seed has to travel. That is because seeds need room to grow. A seed has to be far enough away from other plants so that it gets the sunlight and water it needs. If a seed falls to the ground too close to its parent plant, it may not grow.

Of course, wind can spread the seeds for many plants. But some plants depend on animals to move their seeds. Those seeds are called hitchhiker seeds. They travel on something else that moves!

Many hitchhiker seeds are prickly. They have tiny rows of hooks. The hooks can stick to fur or feathers. Hitchhiker seeds can travel for miles on an animal's body. Then they fall off or are removed. If they fall in a place that is good for growing, the seeds will grow into plants, too!

# What Do Plants Need?

by Rachelle Kreisman

Plants are living things. They depend on water and light to help them grow. But how do plants find what they need? They get it from the world around them!

Plants get water from the soil. They get light from the sun.

Many plants have roots, stems, and leaves. Roots keep a plant attached to the soil and help the plant take in water. Water moves up the plant's stem to the leaves. The stem also supports the plant so it stays up straight.

Leaves take in light energy from the sun. The leaves use water, light energy, and a gas called carbon dioxide to make glucose. Glucose is a kind of sugar. It is food for the plant. Yes, plants make their own food! They use it to grow.



Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Use the article "What Do Plants Need?" to answer questions 1 to 2.**

1. What are two things plants depend on to help them grow?

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2. What do leaves use to make glucose, or food, for the plant?

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**Use the article "Seeds Need to Move" to answer questions 3 to 4.**

3. Why does a seed need to travel in order to become a plant?

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4. Why might a seed fail to grow if it falls too close to its parent plant?

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**Use the articles "Seeds Need to Move" and "What Do Plants Need?" to answer questions 5 to 6.**

5. What are three things that are needed in order for a seed to grow into a grown-up plant? Use both texts to support your answer.

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6. What is one important fact about plant growth that is mentioned in "Seeds Need to Move" but not in "What Do Plants Need?"?

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Name \_\_\_\_\_

## Area of Combined Rectangles

**Essential Question** How can you break apart a shape to find the area?

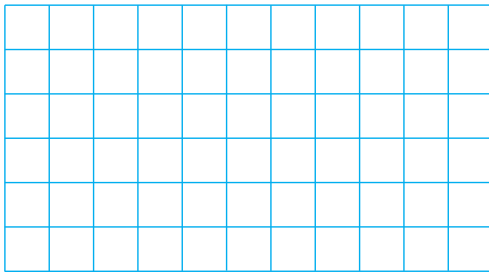


Anna's rug has side lengths of 4 feet and 9 feet. What is the area of Anna's rug?

**Activity Materials** ■ square tiles

**STEP 1** Use square tiles to model  $4 \times 9$ .

**STEP 2** Draw a rectangle on the grid paper to show your model.



**STEP 3** Draw a vertical line to break apart the model to make two smaller rectangles.

The side length 9 is broken into \_\_\_\_ plus \_\_\_\_.

**STEP 4** Find the area of each of the two smaller rectangles.

Rectangle 1: \_\_\_\_  $\times$  \_\_\_\_ = \_\_\_\_

Rectangle 2: \_\_\_\_  $\times$  \_\_\_\_ = \_\_\_\_

**STEP 5** Add the products to find the total area.

\_\_\_\_ + \_\_\_\_ = \_\_\_\_ square feet

**STEP 6** Check your answer by counting the number of square feet.

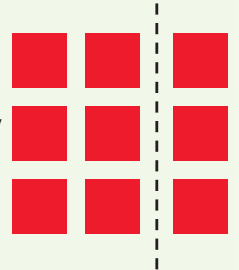
\_\_\_\_ square feet

So, the area of Anna's rug is \_\_\_\_ square feet.

### Remember

You can use the Distributive Property to break apart an array.

$$3 \times 3 = 3 \times (2 + 1)$$



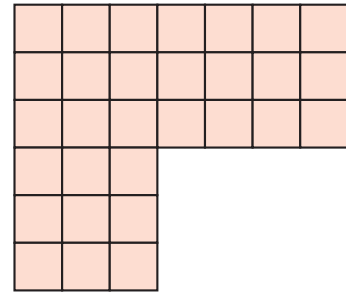
### Math Talk

MATHEMATICAL PRACTICES

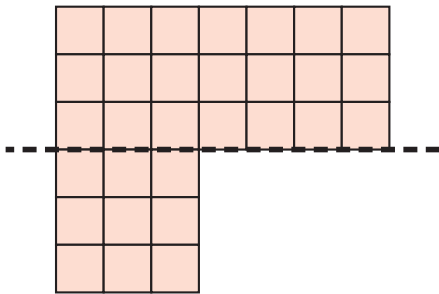
Did you draw a line in the same place as your classmates? **Explain** why you found the same total area.

**CONNECT** Using the Distributive Property, you found that you could break apart a rectangle into smaller rectangles, and add the area of each smaller rectangle to find the total area.

How can you break apart this shape into rectangles to find its area?



**One Way** Use a horizontal line.



**STEP 1** Write a multiplication equation for each rectangle.

Rectangle 1:  $\underline{\quad} \times \underline{\quad} = \underline{\quad}$

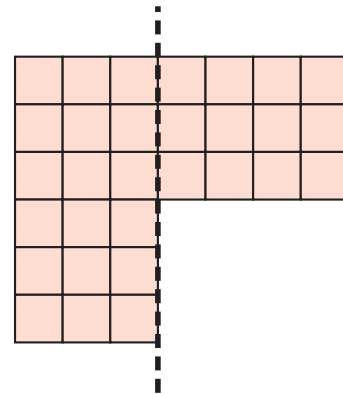
Rectangle 2:  $\underline{\quad} \times \underline{\quad} = \underline{\quad}$

**STEP 2** Add the products to find the total area.

$\underline{\quad} + \underline{\quad} = \underline{\quad}$  square units

So, the area is  $\underline{\quad}$  square units.

**Another Way** Use a vertical line.



**STEP 1** Write a multiplication equation for each rectangle.

Rectangle 1:  $\underline{\quad} \times \underline{\quad} = \underline{\quad}$

Rectangle 2:  $\underline{\quad} \times \underline{\quad} = \underline{\quad}$

**STEP 2** Add the products to find the total area.

$\underline{\quad} + \underline{\quad} = \underline{\quad}$  square units

**Math Talk**

**MATHEMATICAL PRACTICES**

**Explain** how you can check your answer.

## Share and Show



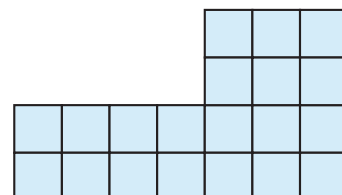
1. Draw a line to break apart the shape into rectangles. Find the total area of the shape.

**Think:** I can draw vertical or horizontal lines to break apart the shape to make rectangles.

Rectangle 1:  $\underline{\quad} \times \underline{\quad} = \underline{\quad}$

Rectangle 2:  $\underline{\quad} \times \underline{\quad} = \underline{\quad}$

$\underline{\quad} + \underline{\quad} = \underline{\quad}$  square units

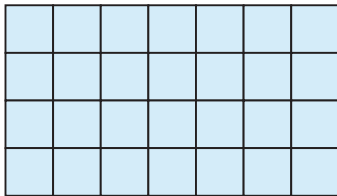


Name \_\_\_\_\_

Use the Distributive Property to find the area. Show your multiplication and addition equations.



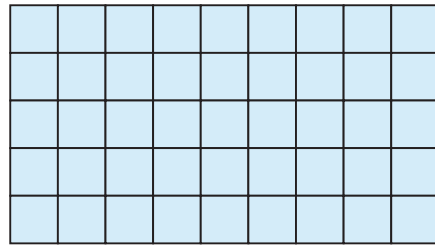
2.



\_\_\_\_\_ square units



3.

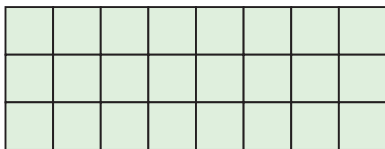


\_\_\_\_\_ square units

## On Your Own

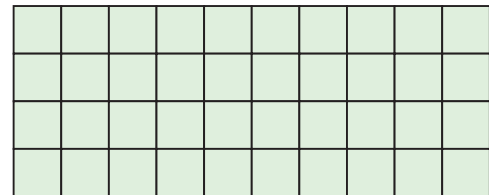
Use the Distributive Property to find the area. Show your multiplication and addition equations.

4.



\_\_\_\_\_ square units

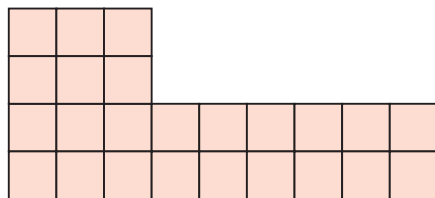
5.



\_\_\_\_\_ square units

Draw a line to break apart the shape into rectangles.  
Find the area of the shape.

6.

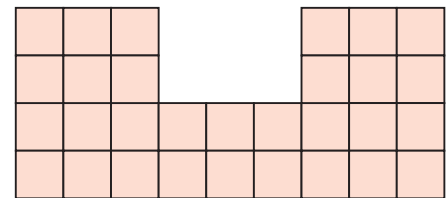


Rectangle 1: \_\_\_\_\_ × \_\_\_\_\_ = \_\_\_\_\_

Rectangle 2: \_\_\_\_\_ × \_\_\_\_\_ = \_\_\_\_\_

\_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_ square units

7.



Rectangle 1: \_\_\_\_\_ × \_\_\_\_\_ = \_\_\_\_\_

Rectangle 2: \_\_\_\_\_ × \_\_\_\_\_ = \_\_\_\_\_

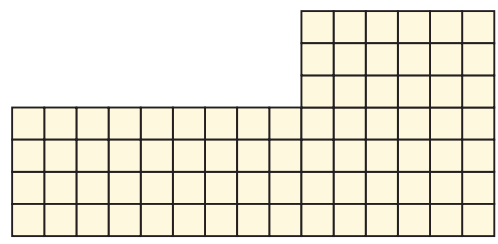
Rectangle 3: \_\_\_\_\_ × \_\_\_\_\_ = \_\_\_\_\_

\_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_ square units



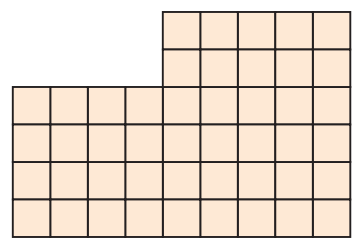
# Problem Solving **REAL WORLD**

8. Ms. Lee’s classroom is shown at the right. Each unit square is 1 square foot. Draw a line to break apart the shape into rectangles. What is the total area of Ms. Lee’s classroom?




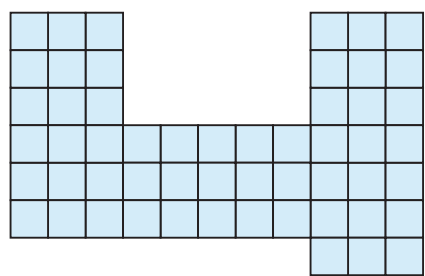

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9. Jared has a rectangular bedroom with a rectangular closet. Each unit square is 1 square foot. Draw a line to break apart the shape into rectangles. What is the total area of Jared’s bedroom?




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10. **Write Math**  **Explain** how to break apart the shape to find the area of the shape.




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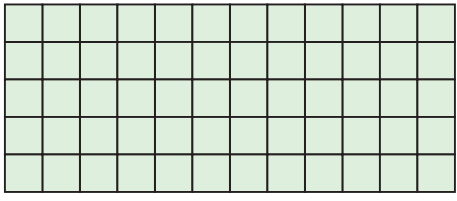
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1 unit square = 1 square meter

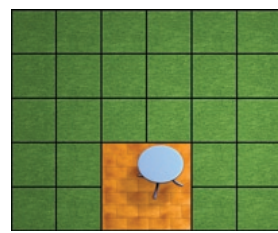
11. **H.O.T.** Use the Distributive Property to find the area of the shape at the right. Write your multiplication and addition equations.




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1 unit square = 1 square centimeter

12. **Test Prep** Pete drew a diagram of his backyard on grid paper. Each unit square is 1 square meter. The area surrounding the patio is grass. How many square meters of grass are in his backyard?



- (A) 4 square meters    (C) 26 square meters
- (B) 18 square meters    (D) 30 square meters

Name \_\_\_\_\_

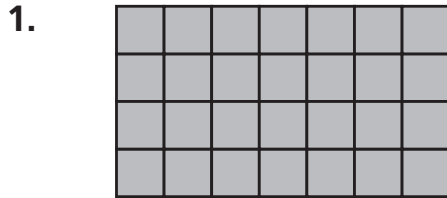
## Area of Combined Rectangles



COMMON CORE STANDARDS MACC.3.MD.3.7c,  
MACC.3.MD.3.7d

Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

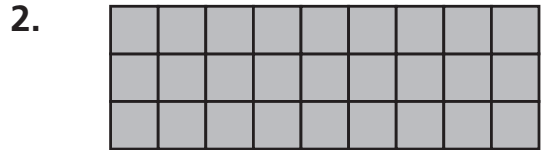
Use the Distributive Property to find the area.  
Show your multiplication and addition equations.



$$4 \times 2 = 8; 4 \times 5 = 20$$

$$8 + 20 = 28$$

28 square units

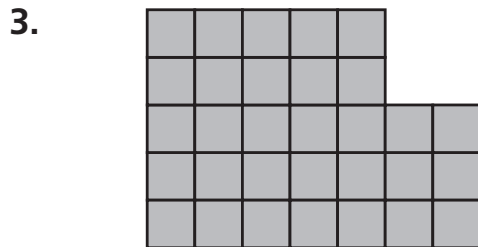


\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ square units

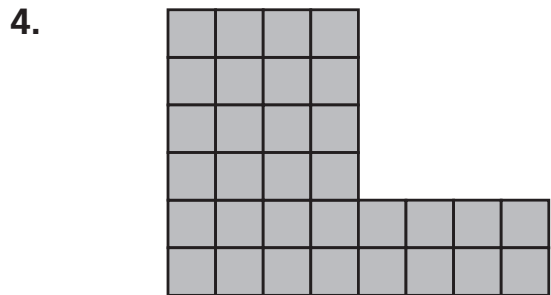
Draw a line to break apart the shape into rectangles. Find the area of the shape.



Rectangle 1: \_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_

Rectangle 2: \_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_

\_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_ square units



Rectangle 1: \_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_

Rectangle 2: \_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_

\_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_ square units

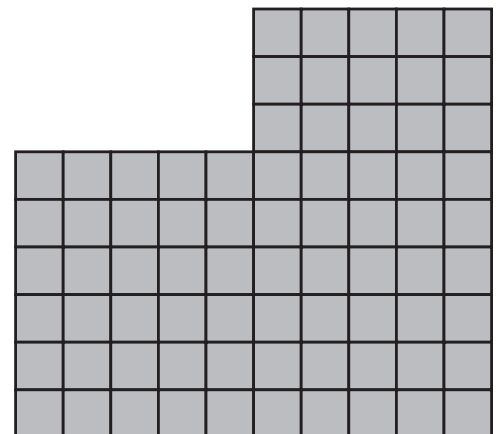
## Problem Solving **REAL WORLD**

A diagram of Frank's room is at right.  
Each unit square is 1 square foot.

5. Draw a line to divide the shape of Frank's room into rectangles.

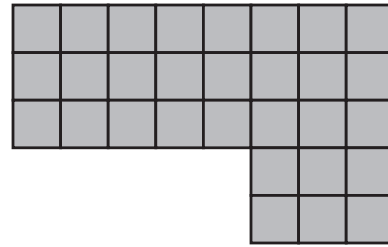
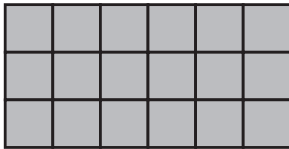
6. What is the total area of Frank's room?

\_\_\_\_\_ square feet



**Lesson Check** (MACC.3.MD.3.7c, MACC.3.MD.3.7d)

- The diagram shows Ben's backyard. Each unit square is 1 square yard. What is the area of Ben's backyard?
- The diagram shows a room in an art gallery. Each unit square is 1 square meter. What is the area of the room?



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|--|--|
| <ul style="list-style-type: none"> <li>(A) 12 square yards</li> <li>(B) 16 square yards</li> <li>(C) 18 square yards</li> <li>(D) 24 square yards</li> </ul> | <ul style="list-style-type: none"> <li>(A) 24 square meters</li> <li>(B) 30 square meters</li> <li>(C) 36 square meters</li> <li>(D) 40 square meters</li> </ul> |
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**Spiral Review** (MACC.3.OA.2.6, MACC.3.NF.1.1, MACC.3.MD.2.4, MACC.3.MD.4.8)

- Naomi needs to solve  $28 \div 7 = \square$ . What related multiplication fact can she use to find the unknown number? (Lesson 6.7)
  - (A)  $3 \times 7 = 21$
  - (B)  $4 \times 7 = 28$
  - (C)  $5 \times 7 = 35$
  - (D)  $6 \times 7 = 42$
- Karen drew a triangle with side lengths 3 centimeters, 4 centimeters, and 5 centimeters. What is the perimeter of the triangle? (Lesson 11.2)
  - (A) 7 centimeters
  - (B) 9 centimeters
  - (C) 11 centimeters
  - (D) 12 centimeters
- The rectangle is divided into equal parts. What is the name of the equal parts? (Lesson 8.1)
- Use an inch ruler. To the nearest half inch, how long is this line segment? (Lesson 10.6)



- |   |   |  |  |
|---|---|--|--|
| <ul style="list-style-type: none"> <li>(A) half</li> <li>(B) third</li> </ul> | <ul style="list-style-type: none"> <li>(C) fourth</li> <li>(D) sixth</li> </ul> | <ul style="list-style-type: none"> <li>(A) 1 inch</li> <li>(B) <math>1\frac{1}{2}</math> inches</li> </ul> | <ul style="list-style-type: none"> <li>(C) 2 inches</li> <li>(D) <math>2\frac{1}{2}</math> inches</li> </ul> |
|---|---|--|--|

Name \_\_\_\_\_

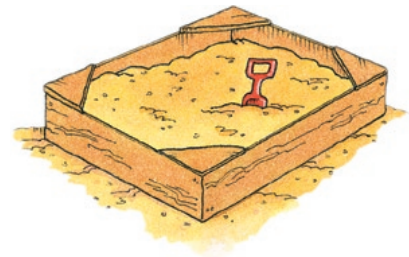
## Same Perimeter, Different Areas

**Essential Question** How can you use area to compare rectangles with the same perimeter?

### UNLOCK the Problem REAL WORLD

Toby has 12 feet of boards to put around a rectangular sandbox. How long should he make each side so that the area of the sandbox is as large as possible?

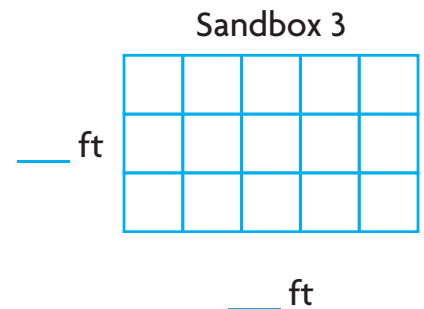
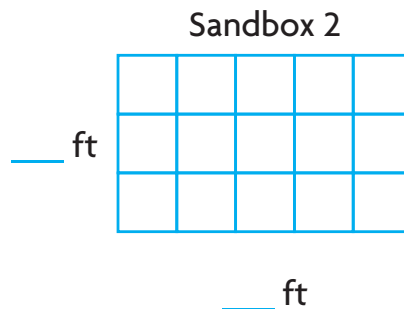
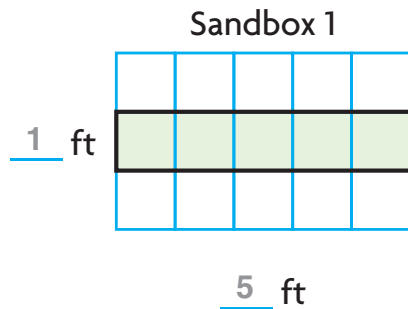
- What is the greatest perimeter Toby can make for his sandbox?



### Activity

**Materials** ■ square tiles

Use square tiles to make all the rectangles you can that have a perimeter of 12 units. Draw and label the sandboxes. Then find the area of each.



Find the perimeter and area of each rectangle.

	Perimeter	Area
Sandbox 1	$5 + 1 + 5 + 1 = 12$ feet	$1 \times 5 =$ ___ square feet
Sandbox 2	___ + ___ + ___ + ___ = ___ feet	___ $\times$ ___ = ___ square feet
Sandbox 3	___ + ___ + ___ + ___ = ___ feet	___ $\times$ ___ = ___ square feet

The area of Sandbox \_\_\_\_\_ is the greatest.

So, Toby should build a sandbox that is

\_\_\_\_\_ feet wide and \_\_\_\_\_ feet long.

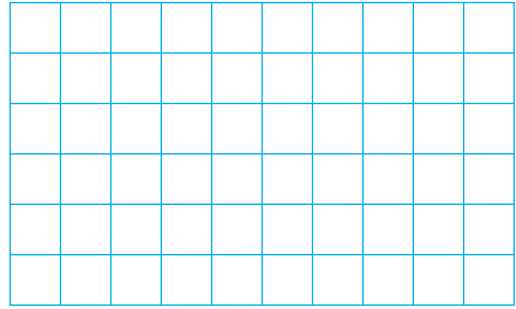
**Math Talk** **MATHEMATICAL PRACTICES**

How are the sandboxes alike? How are the sandboxes different?

**Examples** Draw rectangles with the same perimeter and different areas.

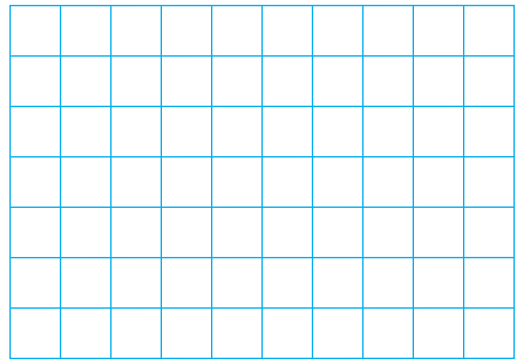
**A** Draw a rectangle that has a perimeter of 20 units and an area of 24 square units.

The sides of the rectangle measure \_\_\_\_\_ units and \_\_\_\_\_ units.



**B** Draw a rectangle that has a perimeter of 20 units and an area of 25 square units.

The sides of the rectangle measure \_\_\_\_\_ units and \_\_\_\_\_ units.

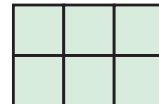


MATHEMATICAL PRACTICES

**Math Talk** Explain how the perimeters of Example A and Example B are related.  
Explain how the areas are related.


## Share and Show

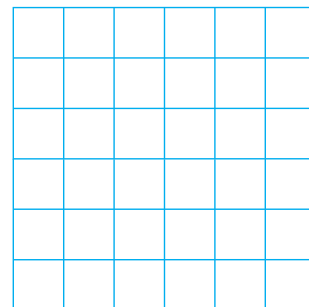
1. The perimeter of the rectangle at the right is \_\_\_\_\_ units. The area is \_\_\_\_\_ square units.



2. Draw a rectangle that has the same perimeter as the rectangle in Exercise 1 but with a different area.

3. The area of the rectangle in Exercise 2 is \_\_\_\_\_ square units.

 4. Which rectangle has the greater area?



5. If you were given a rectangle with a certain perimeter, how would you draw it so that it has the greatest area?

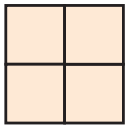
MATHEMATICAL PRACTICES

**Math Talk** Explain how you knew what the rectangle for Exercise 5 would look like.

Name \_\_\_\_\_

Find the perimeter and the area. Tell which rectangle has a greater area.

6.



A



B

A: Perimeter = \_\_\_\_\_; Area = \_\_\_\_\_

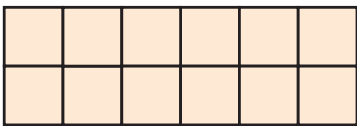
B: Perimeter = \_\_\_\_\_; Area = \_\_\_\_\_

Rectangle \_\_\_\_ has a greater area.

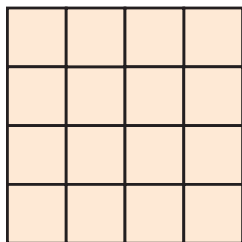
## On Your Own

Find the perimeter and the area. Tell which rectangle has a greater area.

7.



A



B

A: Perimeter = \_\_\_\_\_;

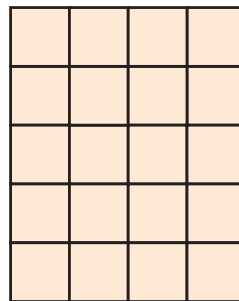
Area = \_\_\_\_\_

B: Perimeter = \_\_\_\_\_;

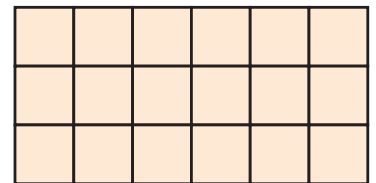
Area = \_\_\_\_\_

Rectangle \_\_\_\_ has a greater area.

8.



A



B

A: Perimeter = \_\_\_\_\_;

Area = \_\_\_\_\_

B: Perimeter = \_\_\_\_\_;

Area = \_\_\_\_\_

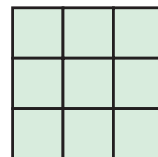
Rectangle \_\_\_\_ has a greater area.

9.

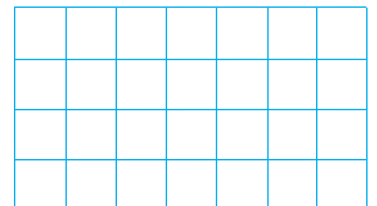


Draw a rectangle with the same perimeter as Rectangle C, but with a smaller area. What is the area?

Area = \_\_\_\_\_



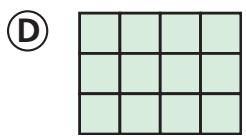
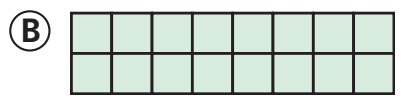
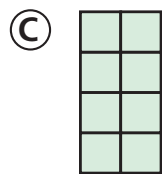
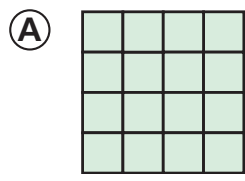
C



# Problem Solving **REAL WORLD**

10. **Write Math** **What's the Question?** Todd's flower garden is 4 feet wide and 8 feet long. The answer is 32 square feet.

11. **Test Prep** Which shape has a perimeter of 20 units and an area of 16 square units?



## Connect to Reading

### Cause and Effect

Sometimes one action has an effect on another action. The *cause* is the reason something happens. The *effect* is the result.

Sam wanted to print a digital photo that is 3 inches wide and 5 inches long. **What if** Sam accidentally printed a photo that is 4 inches wide and 6 inches long?

Sam can make a table to understand cause and effect.



Cause	Effect
The wrong size photo was printed.	Each side of the photo is a greater length.

Use the information and the strategy to solve the problems.

12. What effect did the mistake have on the perimeter of the photo?

\_\_\_\_\_

\_\_\_\_\_

13. What effect did the mistake have on the area of the photo?

\_\_\_\_\_

\_\_\_\_\_

Name \_\_\_\_\_

## Same Perimeter, Different Areas

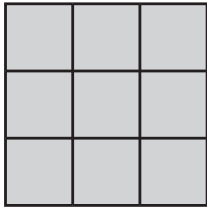


COMMON CORE STANDARD MACC.3.MD.4.8

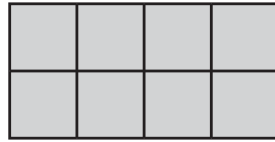
Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.

Find the perimeter and the area.  
Tell which rectangle has a greater area.

1.



A



B

A: Perimeter = 12 units;  
Area = 9 square units

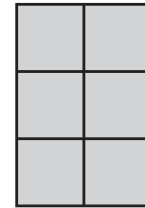
B: Perimeter = \_\_\_\_\_;  
Area = \_\_\_\_\_

Rectangle \_\_\_\_\_ has a greater area.

2.



A



B

A: Perimeter = \_\_\_\_\_;  
Area = \_\_\_\_\_

B: Perimeter = \_\_\_\_\_;  
Area = \_\_\_\_\_

Rectangle \_\_\_\_\_ has a greater area.

## Problem Solving

REAL WORLD

3. Tara's and Jody's bedrooms are shaped like rectangles. Tara's bedroom is 9 feet long and 8 feet wide. Jody's bedroom is 7 feet long and 10 feet wide. Whose bedroom has the greater area? **Explain.**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. Mr. Sanchez has 16 feet of fencing to put around a rectangular garden. He wants the garden to have the greatest possible area. How long should the sides of the garden be?

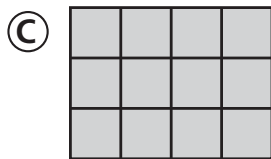
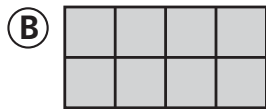
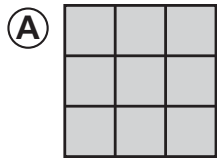
\_\_\_\_\_

\_\_\_\_\_

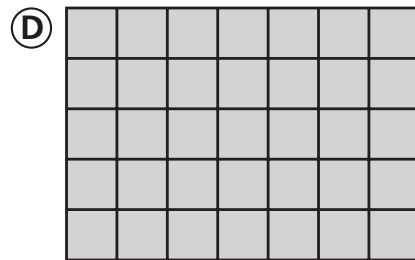
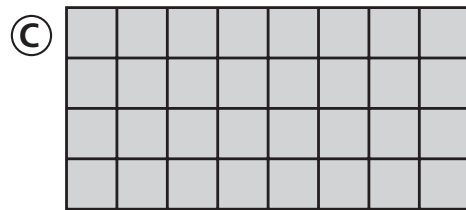
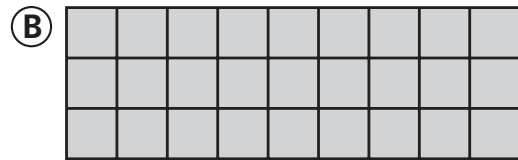


**Lesson Check** (MACC.3.MD.4.8)

1. Which shape has a perimeter of 12 units and an area of 8 square units?



2. All four rectangles below have the same perimeter. Which rectangle has the greatest area?



**Spiral Review** (MACC.3.MD.3.7, MACC.3.MD.3.7a, MACC.3.MD.4.8)

3. Kerrie covers a table with 8 rows of square tiles. There are 7 tiles in each row. What is the area that Kerrie covers in square units?

(Lesson 11.6)

- (A) 15 square units
- (B) 35 square units
- (C) 42 square units
- (D) 56 square units

4. Von has a rectangular workroom with a perimeter of 26 feet. The length of the workroom is 6 feet. What is the width of Von's workroom? (Lesson 11.3)

- (A) 7 feet
- (B) 13 feet
- (C) 20 feet
- (D) 26 feet

Name \_\_\_\_\_

## Same Area, Different Perimeters

**Essential Question** How can you use perimeter to compare rectangles with the same area?

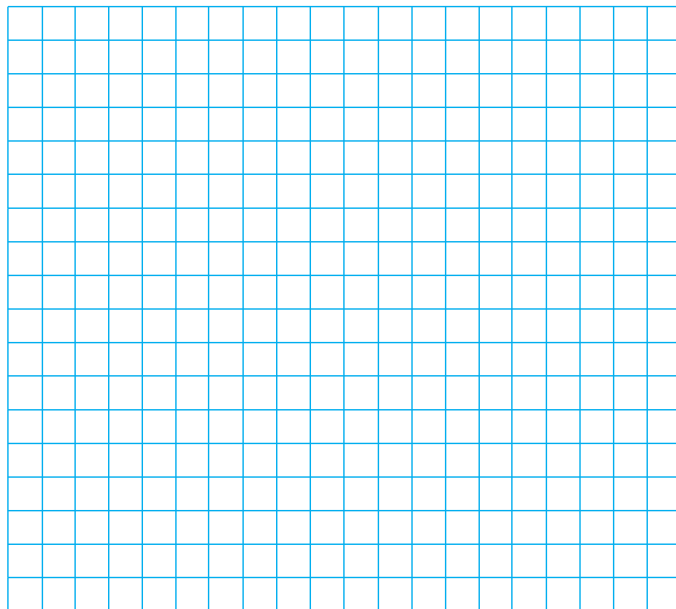


Marcy is making a rectangular pen to hold her rabbits. The area of the pen should be 16 square meters with side lengths that are whole numbers. What is the least amount of fencing she needs?

- What does the least amount of fencing represent?

**Activity Materials** ■ square tiles

Use 16 square tiles to make rectangles. Make as many different rectangles as you can with 16 tiles. Record the rectangles on the grid, write the multiplication equation for the area shown by the rectangle, and find the perimeter of each rectangle.



**Math Talk** **MATHEMATICAL PRACTICES**  
**Explain** how you found the rectangles.

Area: \_\_\_\_\_  $\times$  \_\_\_\_\_ = 16 square meters      Perimeter: \_\_\_\_\_ meters

Area: \_\_\_\_\_  $\times$  \_\_\_\_\_ = 16 square meters      Perimeter: \_\_\_\_\_ meters

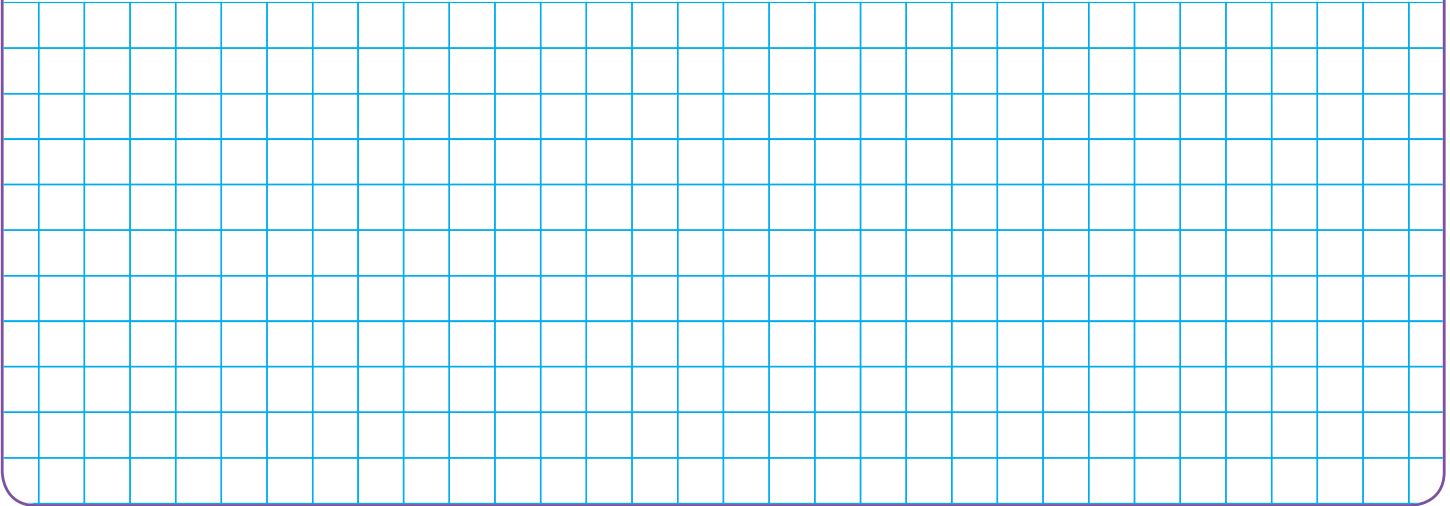
Area: \_\_\_\_\_  $\times$  \_\_\_\_\_ = 16 square meters      Perimeter: \_\_\_\_\_ meters

To use the least amount of fencing, Marcy should make a rectangular pen with side lengths of \_\_\_\_\_ meters and \_\_\_\_\_ meters.

So, \_\_\_\_\_ meters is the least amount of fencing Marcy needs.

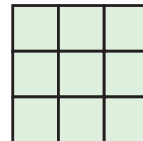
## Try This!

Draw three rectangles that have an area of 18 square units on the grid. Find the perimeter of each rectangle. Shade the rectangle that has the greatest perimeter.



## Share and Show

1. The area of the rectangle at the right is \_\_\_\_\_ square units. The perimeter is \_\_\_\_\_ units.



2. Draw a rectangle that has the same area as the rectangle in Exercise 1 but with a different perimeter.

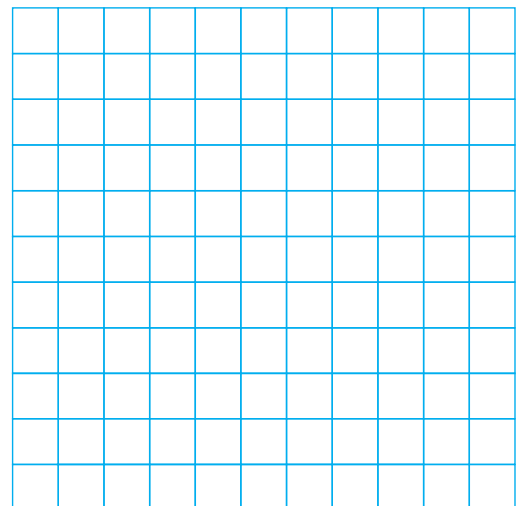
3. The perimeter of the rectangle in Exercise 2 is \_\_\_\_\_ units.

 4. Which rectangle has the greater perimeter?

\_\_\_\_\_

5. If you were given a rectangle with a certain area, how would you draw it so that it had the greatest perimeter?

\_\_\_\_\_



### Math Talk

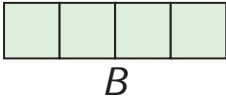
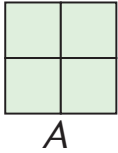
#### MATHEMATICAL PRACTICES

Did you and your classmate draw the same rectangle for Exercise 2? **Explain.**

Name \_\_\_\_\_

Find the perimeter and the area. Tell which rectangle has a greater perimeter.

6.



A: Area = \_\_\_\_\_; Perimeter = \_\_\_\_\_

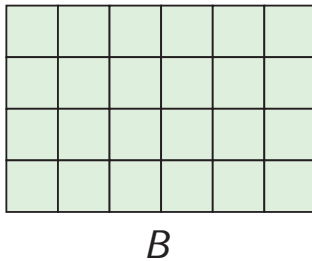
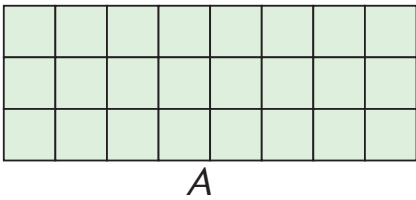
B: Area = \_\_\_\_\_; Perimeter = \_\_\_\_\_

Rectangle \_\_\_\_\_ has a greater perimeter.

## On Your Own

Find the perimeter and the area. Tell which rectangle has a greater perimeter.

7.



A: Area = \_\_\_\_\_;

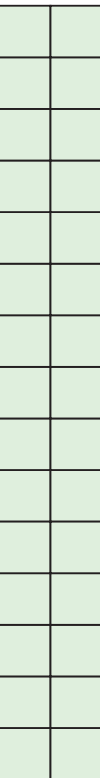
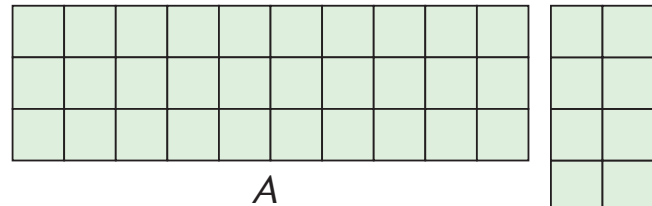
Perimeter = \_\_\_\_\_

B: Area = \_\_\_\_\_;

Perimeter = \_\_\_\_\_

Rectangle \_\_\_\_\_ has a greater perimeter.

8.



A: Area = \_\_\_\_\_;

Perimeter = \_\_\_\_\_

B: Area = \_\_\_\_\_;

Perimeter = \_\_\_\_\_

Rectangle \_\_\_\_\_ has a greater perimeter.

9.



**Sense or Nonsense?** Dora says that of all the possible rectangles with the same area, the rectangle with the largest perimeter will have two side lengths that are 1 unit. Does her statement make sense? **Explain.**



**UNLOCK the Problem**

**REAL WORLD**



10. Ed has 12 tiles. Each tile is 1 square inch. He will arrange them into a rectangle and glue 1-inch stones around the edge. How can Ed arrange the tiles so that he uses the least number of stones?

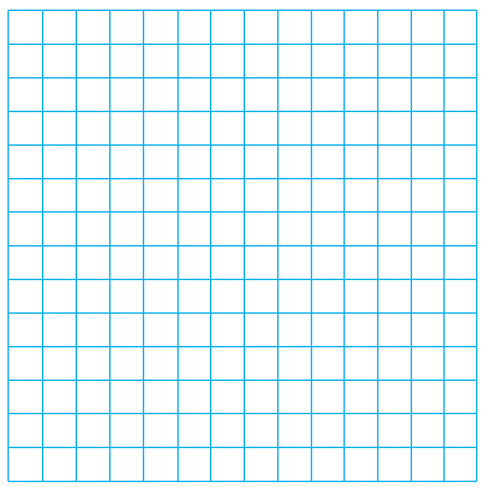
a. What do you need to find? \_\_\_\_\_

\_\_\_\_\_

b. How will you use what you know about perimeter to help you solve the problem?

\_\_\_\_\_

c. Draw possible rectangles to solve the problem, label them A, B, and C.



d. Complete the sentences.  
Rectangle A has side lengths \_\_\_\_\_ and \_\_\_\_\_ with a perimeter of \_\_\_\_\_.

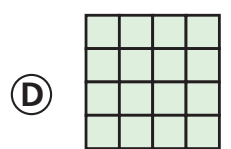
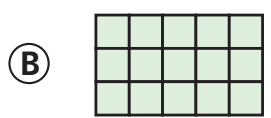
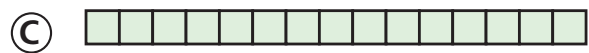
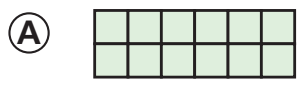
\_\_\_\_\_ with a perimeter of \_\_\_\_\_.

Rectangle B has side lengths \_\_\_\_\_ and \_\_\_\_\_ with a perimeter of \_\_\_\_\_.

Rectangle C has side lengths \_\_\_\_\_ and \_\_\_\_\_ with a perimeter of \_\_\_\_\_.

So, Ed should arrange the tiles like Rectangle \_\_\_\_\_.

11. **Test Prep** Which shape has an area of 15 square units and a perimeter of 16 units?



FOR MORE PRACTICE:

Name \_\_\_\_\_

### Same Area, Different Perimeters



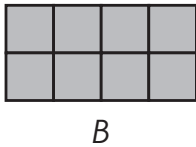
COMMON CORE STANDARD MACC.3.MD.4.8

Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.

Find the perimeter and the area. Tell which rectangle has a greater perimeter.

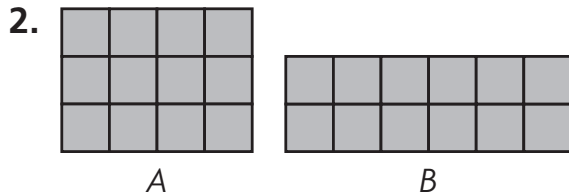


A: Area = 8 square units ;  
Perimeter = 18 units



B: Area = \_\_\_\_\_ ;  
Perimeter = \_\_\_\_\_

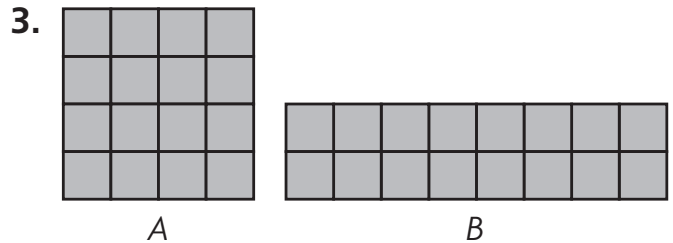
Rectangle \_\_\_\_\_ has a greater perimeter.



A: Area = \_\_\_\_\_ ;  
Perimeter = \_\_\_\_\_

B: Area = \_\_\_\_\_ ;  
Perimeter = \_\_\_\_\_

Rectangle \_\_\_\_\_ has a greater perimeter.



A: Area = \_\_\_\_\_ ;  
Perimeter = \_\_\_\_\_

B: Area = \_\_\_\_\_ ;  
Perimeter = \_\_\_\_\_

Rectangle \_\_\_\_\_ has a greater perimeter.

### Problem Solving



Use the tile designs for 4–5.

4. Compare the areas of Design A and Design B.

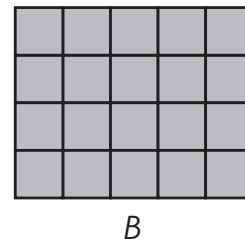
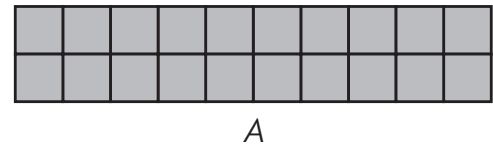
\_\_\_\_\_

\_\_\_\_\_

5. Compare the perimeters. Which design has the greater perimeter?

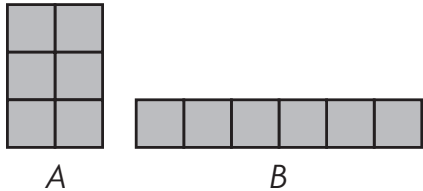
\_\_\_\_\_

Beth's Tile Designs



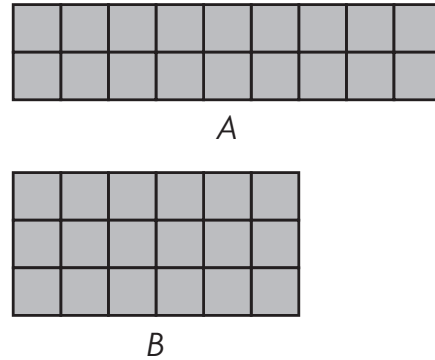
**Lesson Check** (MACC.3.MD.4.8)

1. Jake drew two rectangles. Which statement is true?



- (A) The perimeters are the same.
- (B) The area of *A* is greater.
- (C) The perimeter of *A* is greater.
- (D) The perimeter of *B* is greater.

2. Alyssa drew two rectangles. Which statement is true?



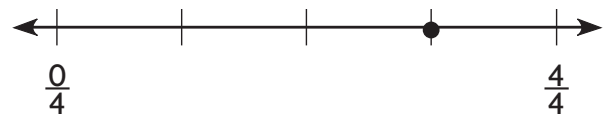
- (A) The perimeter of *B* is greater.
- (B) The perimeter of *A* is greater.
- (C) The area of *B* is greater.
- (D) The perimeters are the same.

**Spiral Review** (MACC.3.OA.4.8, MACC.3.NF.1.2a, MACC.3.NF.1.2b, MACC.3.NF.1.3d)

3. Marsha was asked to find the value of  $8 - 3 \times 2$ . She wrote a wrong answer. Which is the correct answer? (Lesson 7.11)

- (A) 22
- (B) 10
- (C) 4
- (D) 2

4. What fraction names the point on the number line? (Lesson 8.5)



- (A)  $\frac{1}{4}$
- (B)  $\frac{2}{3}$
- (C)  $\frac{3}{4}$
- (D)  $\frac{3}{1}$

5. Kyle drew three line segments with these lengths:  $\frac{2}{4}$  inch,  $\frac{2}{3}$  inch, and  $\frac{2}{6}$  inch. Which list orders the fractions from least to greatest? (Lesson 9.5)

- (A)  $\frac{2}{6}, \frac{2}{4}, \frac{2}{3}$
- (B)  $\frac{2}{3}, \frac{2}{4}, \frac{2}{6}$
- (C)  $\frac{2}{4}, \frac{2}{3}, \frac{2}{6}$
- (D)  $\frac{2}{6}, \frac{2}{3}, \frac{2}{4}$

6. On Monday,  $\frac{3}{8}$  inch of snow fell. On Tuesday,  $\frac{5}{8}$  inch of snow fell. Which statement correctly compares the snow amounts? (Lesson 9.2)

- (A)  $\frac{3}{8} = \frac{5}{8}$
- (B)  $\frac{3}{8} < \frac{5}{8}$
- (C)  $\frac{5}{8} < \frac{3}{8}$
- (D)  $\frac{3}{8} > \frac{5}{8}$

**Week 7**  
 Math/Science Work  
 Week of: May 11-May 15

Name: \_\_\_\_\_

Grade: \_\_\_\_\_

Teacher: \_\_\_\_\_

Date:	Work:	Standards:
Monday (5-11)	Math: <ul style="list-style-type: none"> <li>• Lesson 12.1- Describe Plane Shapes and Standard Practice Page 483-486 AND Page P239-P240</li> </ul> Science: <ul style="list-style-type: none"> <li>• "Mammals" ReadWorks passage and questions</li> <li>• Watch BrainPOP Jr. on "Mammals"</li> </ul>	<b>MAFS.3.G.1.1</b>  SC.3.L.15.1
Tuesday (5-12)	Math: <ul style="list-style-type: none"> <li>• Lesson 12.2- Describe Angles in Plane Shapes Page 487-490</li> </ul> Science: <ul style="list-style-type: none"> <li>• "Mammals" ReadWorks passage and questions</li> <li>• Watch BrainPOP Jr. on "Mammals"</li> </ul>	<b>MAFS.3.G.1.1</b>  SC.3.L.15.1
Wednesday (5-13)	Math: <ul style="list-style-type: none"> <li>• Lesson 12.2- Describe Angles in Plane Shapes Standard Practice Page P241-P242</li> </ul> Science: <ul style="list-style-type: none"> <li>• "Mammals" ReadWorks passage and questions</li> <li>• Watch BrainPOP Jr. on "Mammals"</li> </ul>	<b>MAFS.3.G.1.1</b>  SC.3.L.15.1
Thursday (5-14)	Math: <ul style="list-style-type: none"> <li>• Lesson 12.3- Identify Polygons Page 491-494</li> </ul> Science: <ul style="list-style-type: none"> <li>• "Mammals" ReadWorks passage and questions</li> <li>• Watch BrainPOP Jr. on "Mammals"</li> </ul>	<b>MAFS.3.G.1.1</b>  SC.3.L.15.1
Friday (5-15)	Math: <ul style="list-style-type: none"> <li>• Lesson 12.3- Identify Polygons Standard Practice Page P243-P244</li> </ul> Science: <ul style="list-style-type: none"> <li>• "Mammals" ReadWorks passage and questions</li> <li>• Watch BrainPOP Jr. on "Mammals"</li> </ul>	<b>MAFS.3.G.1.1</b>  SC.3.L.15.1



# Mammals

This text is adapted from an original work of the Core Knowledge Foundation.

Mammals are some of the most interesting and complex animals in the world. Most scientists agree that mammals are the smartest creatures in the animal kingdom. All animals communicate in some way. Dogs communicate by barking and wagging their tails. Cows moo. Some cats meow, others roar. But mammals seem to use the most complex forms of communication. Humans use language to talk. They also communicate with their faces and hands. Some apes and chimpanzees have even been taught to use sign language to communicate.



*Mammals communicate in different ways.*

There are two other mammals that also seem to use an advanced form of communication. In fact, you may not even realize that these animals are mammals because they live in the

ocean. Dolphins and whales are classified as aquatic mammals. Dolphins and whales, like other mammals, do not have gills like fish, so they cannot breathe underwater. Instead, they use blowholes at the top of their heads to blow out water and suck in air. Dolphins and whales rise to the surface of the water and poke their heads into the air to breathe.

Whales and dolphins communicate by sending out sound waves through the water. These waves, called sonar, help them find their way through the ocean. The sound waves bounce off objects and echo back to the whale or dolphin. The whale or dolphin can tell the size, shape, and speed of objects, and the distance away from them based on the time it takes the echo sound to travel back to them. They also use their sounds to "talk" to each other!



*You might think dolphins would be classified as fish, but they are classified as mammals.*

Dolphins and whales also give birth to live young. No eggs needed! They even feed milk to their young. If you study them closely, you will learn that dolphins and whales have hair, not scales. They also have very thick skin. Their skin protects them from the cold and animals

that are their predators.

You might also be surprised to learn that bats are also mammals. Bats fly like birds, but they do not have the other characteristics that birds have. Bats have fur, not feathers. Their arms have wing-like flaps of skin, but they are not like bird wings. Bats also give birth to live young and they produce milk. So, scientists classify bats as mammals.



*Bats are also mammals.*

Here's an interesting fact: not all mammals give birth to live young. The duck-billed platypus and spiny anteater both lay eggs like birds and some reptiles, but have all the other characteristics of mammals. Good luck finding one. They are very rare!

Mammals have their fair share of odd members, like the duck-billed platypus. But the basic characteristics-hair, backbone, milk, warmblooded- are always present in mammals no matter what.



*A duck-billed platypus*

Name: \_\_\_\_\_ Date: \_\_\_\_\_

1. What is one basic characteristic of mammals?

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2. What makes mammal communication special compared to how some other kinds of animals communicate?

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3. The text says that "mammals have their fair share of odd members". What is one example from the text of a mammal that may not seem to be a mammal at first glance?

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4. Describe one mammal that is described in the text. Use at least two details from the text in your description.

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5. What is the main idea of this text?

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Name \_\_\_\_\_

## Describe Plane Shapes

**Essential Question** What are some ways to describe two-dimensional shapes?



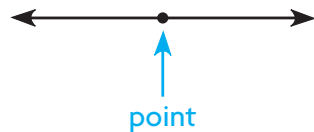
An architect draws plans for houses, stores, offices, and other buildings. Look at the shapes in the drawing at the right.



A **plane shape** is a shape on a flat surface. It is formed by points that make curved paths, line segments, or both.

### point

- is an exact position or location



### line

- is a straight path
- continues in both directions
- does not end



### endpoints

- points that are used to show segments of lines



### line segment

- is straight
- is part of a line
- has 2 endpoints

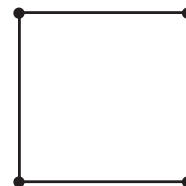


### ray

- is straight
- is part of a line
- has 1 endpoint
- continues in one direction



Some plane shapes are made by connecting line segments at their endpoints. One example is a square. Describe a square using math words.



**Think:** How many line segments and endpoints does a square have?

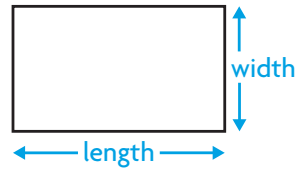
A square has \_\_\_\_\_ line segments. The line segments meet only at their \_\_\_\_\_.

### Math Talk

MATHEMATICAL PRACTICES

**Explain** why you cannot measure the length of a line.

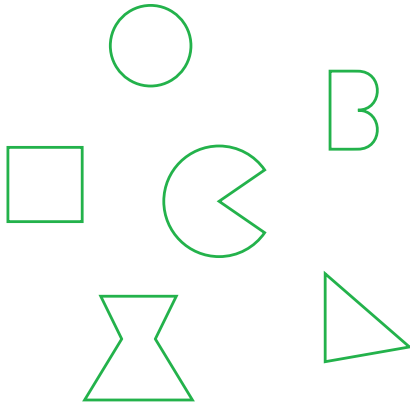
Plane shapes have length and width but no thickness, so they are also called **two-dimensional shapes**.



**Try This!** Draw plane shapes.

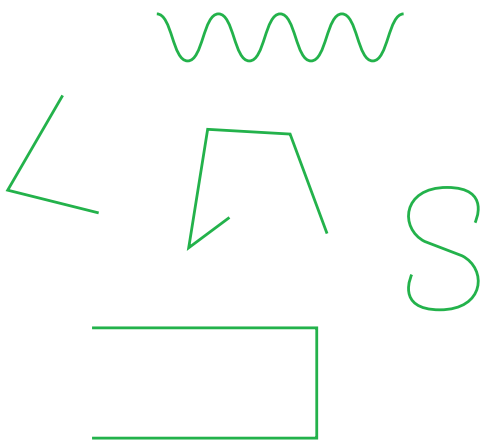
Plane shapes can be open or closed.

A **closed shape** starts and ends at the same point.



In the space below, draw more examples of closed shapes.

An **open shape** does not start and end at the same point.



In the space below, draw more examples of open shapes.

**MATHEMATICAL PRACTICES**

**Math Talk** Explain whether a shape with a curved path must be a closed shape, an open shape, or can be either.

- Is the plane shape at the right a closed shape or an open shape? **Explain** how you know.

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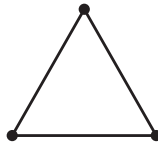




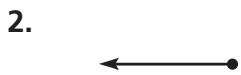
Name \_\_\_\_\_

## Share and Show

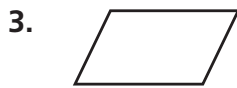
1. Write how many line segments  
the shape has. \_\_\_\_\_



Circle all the words that describe the shape.



ray  
point



open shape  
closed shape



open shape  
closed shape



line  
line segment

Write whether the shape is *open* or *closed*.



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_

MATHEMATICAL PRACTICES

**Math Talk** Explain how you know the shape in Exercise 9 is an open shape.

## On Your Own

Write how many line segments the shape has.



\_\_\_\_\_ line segments



\_\_\_\_\_ line segments



\_\_\_\_\_ line segments



\_\_\_\_\_ line segments

Write whether the shape is *open* or *closed*.



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_

# Problem Solving.....


18. **What's the Error?** Brittany says there are two endpoints in the shape shown at the right. Is she correct? **Explain.**

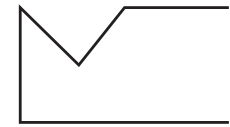



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19. **Write Math**  **Explain** how you can make the shape at the right a closed shape. Change the shape so it is a closed shape.

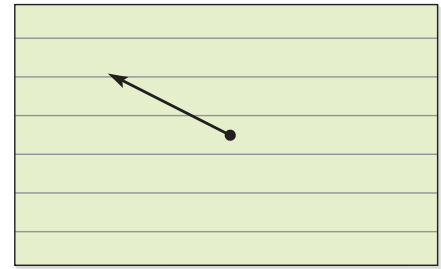



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20. Look at Carly's drawing at the right. What did she draw? How is it like a line? How is it different? Change the drawing so that it is a line.




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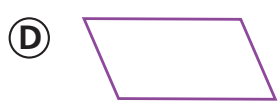
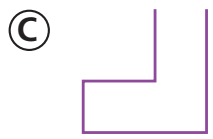
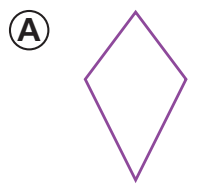


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21. **H.O.T.** Draw a closed shape in the workspace by connecting 5 line segments at their endpoints.



22. **Test Prep** Which is NOT a closed shape?



Dear Family,

During the next few weeks, our math class will be learning about plane shapes. We will learn to identify polygons and describe them by their sides and angles.

You can expect to see homework that provides practice with shapes.

Here is a sample of how your child will be taught to classify quadrilaterals.

## Vocabulary

**angle** A shape formed by two rays that share an endpoint

**closed shape** A shape that begins and ends at the same point

**polygon** A closed plane shape made up of straight line segments

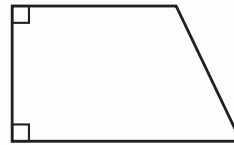
**quadrilateral** A polygon with four sides and four angles

### **MODEL** Classify Quadrilaterals

Use sides and angles to name this quadrilateral.

**STEP 1** There are 2 right angles.

**STEP 2** There is exactly 1 pair of opposite sides that are parallel.



So, the quadrilateral is a trapezoid.

### Tips

#### Checking Angles

The corner of a sheet of paper or an index card can be used to check whether an angle in a polygon is *right*, *less than a right angle*, or *greater than a right angle*.

## Activity

Point out everyday objects that resemble plane shapes, such as books, photos, windows, and traffic signs. Have your child identify the shape and describe it by its sides and angles.

Name \_\_\_\_\_

## Describe Plane Shapes

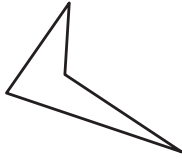


COMMON CORE STANDARD MACC.3.G.1.1

Reason with shapes and their attributes.

Write how many line segments the shape has.

1.



4 line segments

2.



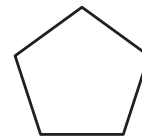
\_\_\_\_\_ line segments

3.



\_\_\_\_\_ line segments

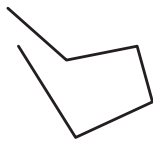
4.



\_\_\_\_\_ line segments

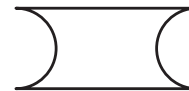
Write whether the shape is *open* or *closed*.

5.



\_\_\_\_\_

6.



\_\_\_\_\_

## Problem Solving **REAL WORLD**

7. Carl wants to show a closed shape in his drawing. Show and explain how to make the drawing a closed shape.



\_\_\_\_\_  
\_\_\_\_\_

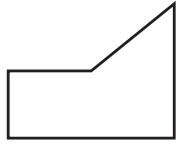
8. The shape of a fish pond at a park is shown below. Is the shape open or closed?



\_\_\_\_\_

**Lesson Check** (MACC.3.G.1.1)

1. How many line segments does this shape have?



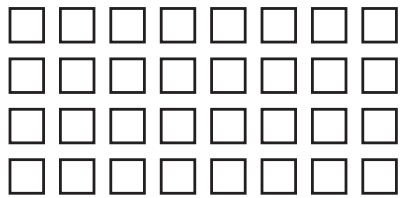
- (A) 2
- (B) 3
- (C) 4
- (D) 5

2. Which of these is part of a line, has one endpoint, and continues in one direction?

- (A) ray
- (B) line
- (C) line segment
- (D) point

**Spiral Review** (MACC.3.OA.1.3, MACC.3.OA.3.7, MACC.3.NF.1.3a)

3. What multiplication sentence does the array show? (Lesson 3.5)



- (A)  $3 \times 8 = 24$
- (B)  $4 \times 8 = 32$
- (C)  $8 \times 5 = 40$
- (D)  $4 \times 9 = 36$

4. What is the unknown factor and quotient? (Lesson 6.8)

$$9 \times \square = 27$$

$$27 \div 9 = \square$$

- (A) 3
- (B) 4
- (C) 5
- (D) 6

5. Which fraction is equivalent to  $\frac{4}{8}$ ? (Lesson 9.6)



- (A)  $\frac{3}{4}$
- (B)  $\frac{1}{2}$
- (C)  $\frac{1}{4}$
- (D)  $\frac{1}{8}$

6. Mr. MacTavish has 30 students from his class going on a field trip to the zoo. He is placing 6 students in each group. How many groups of students from Mr. MacTavish's class will be going to the zoo? (Lesson 7.6)

- (A) 5
- (B) 6
- (C) 7
- (D) 36

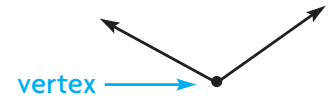
Name \_\_\_\_\_

## Describe Angles in Plane Shapes

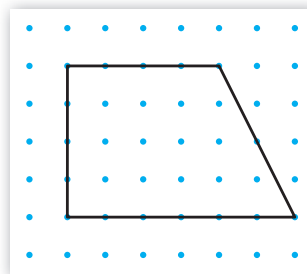
**Essential Question** How can you describe angles in plane shapes?

### UNLOCK the Problem

An **angle** is formed by two rays that share an endpoint. Plane shapes have angles formed by two line segments that share an endpoint. The shared endpoint is called a **vertex**. The plural of *vertex* is *vertices*.



Jason drew this shape on dot paper.

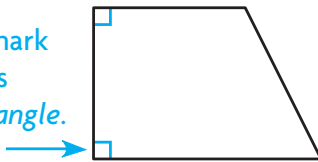


• How many angles are in Jason's shape?  
\_\_\_\_\_

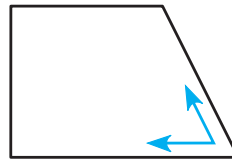
Look at the angles in the shape that Jason drew. How can you describe the angles?

#### Describe angles.

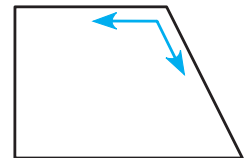
This mark means right angle.



A **right angle** is an angle that forms a square corner.



Some angles are less than a right angle.



Some angles are greater than a right angle.

Look at Jason's shape.

Two angles are \_\_\_\_\_ angles, \_\_\_\_\_ angle is \_\_\_\_\_ a right angle, and \_\_\_\_\_ angle is \_\_\_\_\_ a right angle.

#### Math Talk

Find examples of each type of angle in your classroom. Describe each angle.

MATHEMATICAL PRACTICES

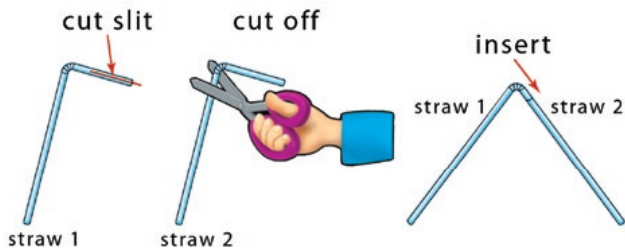


## Activity Model angles.

**Materials** ■ bendable straws ■ scissors ■ paper ■ pencil



- Cut a small slit in the shorter section of a bendable straw. Cut off the shorter section of a second straw and the bendable part. Insert the slit end of the first straw into the second straw.



- Make an angle with the straws you put together. Compare the angle you made to a corner of the sheet of paper.
- Open and close the straws to make other types of angles.

In the space below, trace the angles you made with the straws. Label each *right angle*, *less than a right angle*, or *greater than a right angle*.

## Share and Show



1. How many angles are in the triangle at the right?



\_\_\_\_\_

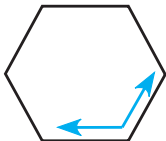
### Math Talk

MATHEMATICAL PRACTICES

**Explain** how you know an angle is greater than or less than a right angle.

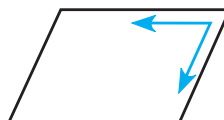
Use the corner of a sheet of paper to tell whether the angle is a *right angle*, *less than a right angle*, or *greater than a right angle*.

2.



\_\_\_\_\_

3.



\_\_\_\_\_

4.

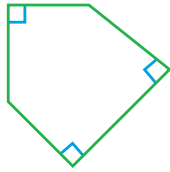


\_\_\_\_\_

Name \_\_\_\_\_

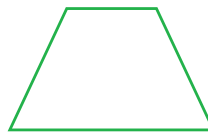
Write how many of each type of angle the shape has.

5.



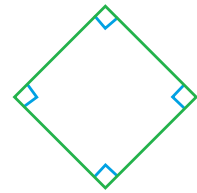
\_\_\_\_\_ right  
\_\_\_\_\_ less than a right  
\_\_\_\_\_ greater than a right

6.



\_\_\_\_\_ right  
\_\_\_\_\_ less than a right  
\_\_\_\_\_ greater than a right

7.

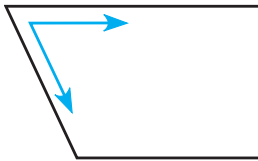


\_\_\_\_\_ right  
\_\_\_\_\_ less than a right  
\_\_\_\_\_ greater than a right

## On Your Own

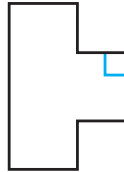
Use the corner of a sheet of paper to tell whether the angle is a *right angle*, *less than a right angle*, or *greater than a right angle*.

8.



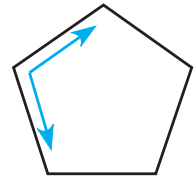
\_\_\_\_\_

9.



\_\_\_\_\_

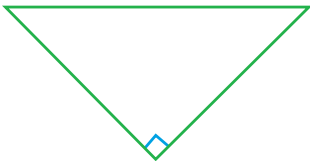
10.



\_\_\_\_\_

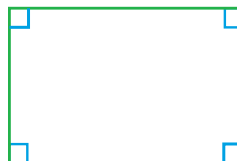
Write how many of each type of angle the shape has.

11.



\_\_\_\_\_ right  
\_\_\_\_\_ less than a right  
\_\_\_\_\_ greater than a right

12.




\_\_\_\_\_ right  
\_\_\_\_\_ less than a right  
\_\_\_\_\_ greater than a right

13.



\_\_\_\_\_ right  
\_\_\_\_\_ less than a right  
\_\_\_\_\_ greater than a right

14.  Describe the types of angles formed when you divide a circle into 4 equal parts.

\_\_\_\_\_



**UNLOCK the Problem**

15. Holly drew a shape that does NOT have a right angle. Which shape did she draw?



a. What do you need to know? \_\_\_\_\_

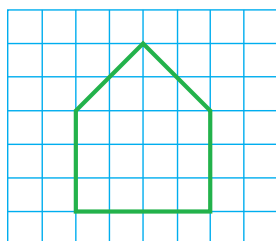
b. Tell how you might use a sheet of paper to solve the problem.  
 \_\_\_\_\_  
 \_\_\_\_\_

c. Shape A has \_\_\_\_\_ right angle(s), \_\_\_\_\_ angle(s) greater than a right angle, and \_\_\_\_\_ angle(s) less than a right angle.  
 Shape B has \_\_\_\_\_ right angle(s), \_\_\_\_\_ angle(s) greater than a right angle, and \_\_\_\_\_ angle(s) less than a right angle.  
 Shape C has \_\_\_\_\_ right angle(s), \_\_\_\_\_ angle(s) greater than a right angle, and \_\_\_\_\_ angle(s) less than a right angle.  
 Shape D has \_\_\_\_\_ right angle(s), \_\_\_\_\_ angle(s) greater than a right angle, and \_\_\_\_\_ angle(s) less than a right angle.

d. Fill in the bubble for the correct answer choice above.

16. How many right angles does the shape have?

- (A) 1
- (B) 2
- (C) 3
- (D) 4



17. Which is a true statement about this shape?



- (A) There are no right angles.
- (B) There are 2 right angles and 4 angles greater than a right angle.
- (C) There are 2 right angles and 4 angles less than a right angle.
- (D) There are 4 right angles and 2 angles less than a right angle.

Name \_\_\_\_\_

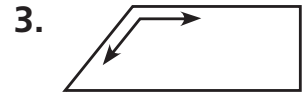
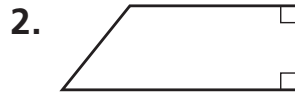
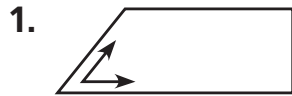
# Describe Angles in Plane Shapes



COMMON CORE STANDARD MACC.3.G.1.1

Reason with shapes and their attributes.

Use the corner of a sheet of paper to tell whether the angle is a right angle, less than a right angle, or greater than a right angle.

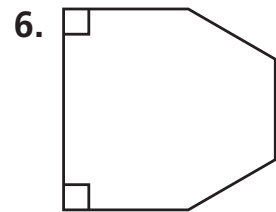
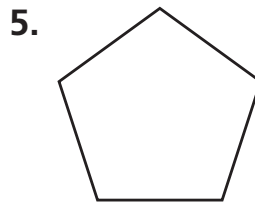
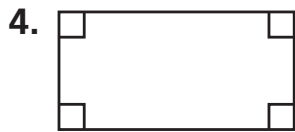


\_\_\_\_\_ **less than a right angle** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Write how many of each type of angle the shape has.



\_\_\_\_\_ right

\_\_\_\_\_ right

\_\_\_\_\_ right

\_\_\_\_\_ less than a right

\_\_\_\_\_ less than a right

\_\_\_\_\_ less than a right

\_\_\_\_\_ greater than a right

\_\_\_\_\_ greater than a right

\_\_\_\_\_ greater than a right

## Problem Solving **REAL WORLD**

7. Jeff has a square piece of art paper. He cuts across it from one corner to the opposite corner to make two pieces. What is the total number of sides and angles in both of the new shapes?

8. Kaylee tells Aimee that the shape of a stop sign has at least one right angle. Aimee says that there are no right angles. Who is correct? **Explain.**

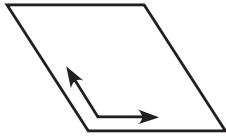


\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

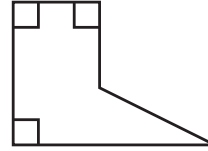
**Lesson Check** (MACC.3.G.1.1)

1. What describes this angle?



- (A) right angle
- (B) less than a right angle
- (C) greater than a right angle
- (D) small angle

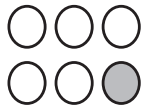
2. How many right angles does this shape have?



- (A) 1
- (B) 2
- (C) 3
- (D) 4

**Spiral Review** (MACC.3.NF.1.1, MACC.3.NF.1.3d, MACC.3.G.1.1)

3. What fraction of the group is shaded? (Lesson 8.7)



- (A)  $\frac{5}{6}$
- (B)  $\frac{1}{3}$
- (C)  $\frac{1}{6}$
- (D)  $\frac{1}{8}$

4. Compare. (Lesson 9.2)

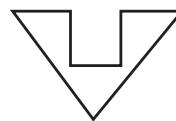
$$\frac{4}{8} \bigcirc \frac{3}{8}$$

- (A)  $>$
- (B)  $<$
- (C)  $=$
- (D)  $\div$

5. Which of the following does NOT describe a line segment? (Lesson 12.1)

- (A) does not end
- (B) is straight
- (C) is part of a line
- (D) has 2 endpoints

6. How many line segments does this shape have? (Lesson 12.1)



- (A) 5
- (B) 6
- (C) 7
- (D) 8

Name \_\_\_\_\_

## Identify Polygons

**Essential Question** How can you use line segments and angles to make polygons?

**CONNECT** In earlier lessons, you learned about line segments and angles. In this lesson, you will see how line segments and angles make polygons.

A **polygon** is a closed plane shape that is made up of line segments that meet only at their endpoints. Each line segment in a polygon is a **side**.

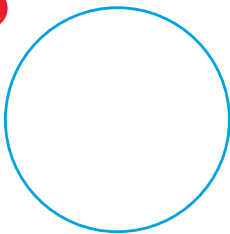
### Math Idea

All polygons are closed shapes. Not all closed shapes are polygons.

## UNLOCK the Problem REAL WORLD

Circle all the words that describe the shape.

**A**



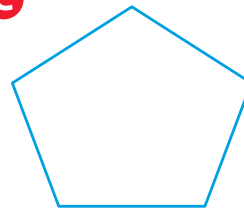
plane shape  
open shape  
closed shape  
curved paths  
line segments  
polygon

**B**



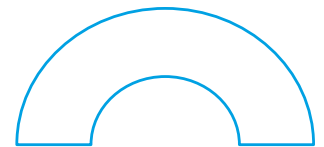
plane shape  
open shape  
closed shape  
curved paths  
line segments  
polygon

**C**



plane shape  
open shape  
closed shape  
curved paths  
line segments  
polygon

**D**



plane shape  
open shape  
closed shape  
curved paths  
line segments  
polygon

### Try This!

Fill in the blanks with *sometimes*, *always*, or *never*.

Polygons are \_\_\_\_\_ plane shapes.

Polygons are \_\_\_\_\_ closed shapes.

Polygons are \_\_\_\_\_ open shapes.

Plane shapes are \_\_\_\_\_ polygons.

### Math Talk

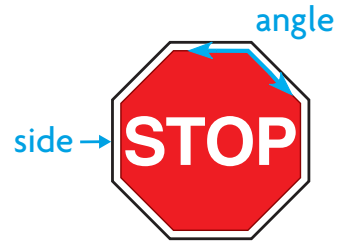
MATHEMATICAL PRACTICES

**Explain** why not all closed shapes are polygons.

# Name Polygons

Polygons are named by the number of sides and angles they have.

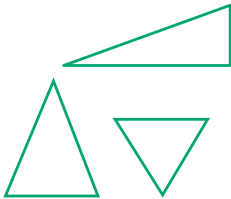
Some traffic signs are in the shape of polygons. A stop sign is in the shape of which polygon?



**Key** Count the number of sides and angles.

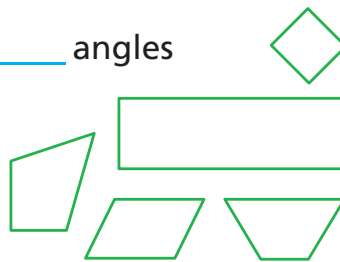
## triangle

3 sides  
3 angles



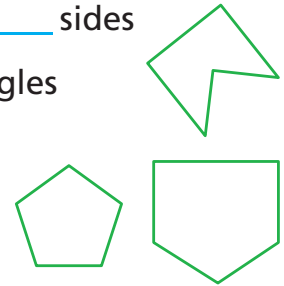
## quadrilateral

4 sides  
\_\_\_\_\_ angles



## pentagon

\_\_\_\_\_ sides  
5 angles



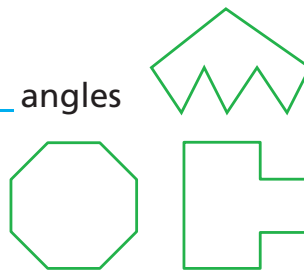
## hexagon

\_\_\_\_\_ sides  
6 angles



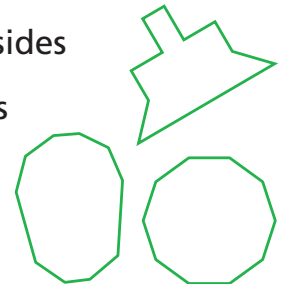
## octagon

8 sides  
\_\_\_\_\_ angles



## decagon

\_\_\_\_\_ sides  
10 angles



How many sides does the stop sign have? \_\_\_\_\_

How many angles? \_\_\_\_\_

So, a stop sign is in the shape of an \_\_\_\_\_.

### MATHEMATICAL PRACTICES

### Math Talk

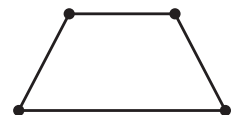
Compare the number of sides and angles. What is a true statement about all polygons?

## Share and Show



1. The shape at the right is a polygon. Circle all the words that describe the shape.

- plane shape    open shape    closed shape    pentagon  
curved paths    line segments    hexagon    quadrilateral



Name \_\_\_\_\_

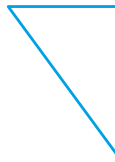
Is the shape a polygon? Write *yes* or *no*.

2.



\_\_\_\_\_

3.



\_\_\_\_\_

4.



\_\_\_\_\_

MATHEMATICAL PRACTICES

**Math Talk**

**Explain** how you can change the shape in Exercise 4 to make it a polygon.

Write the number of sides and the number of angles. Then name the polygon.

5.

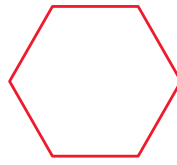


\_\_\_\_\_ sides

\_\_\_\_\_ angles

\_\_\_\_\_

6.

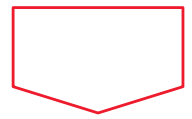


\_\_\_\_\_ sides

\_\_\_\_\_ angles

\_\_\_\_\_

7.



\_\_\_\_\_ sides

\_\_\_\_\_ angles

\_\_\_\_\_

## On Your Own

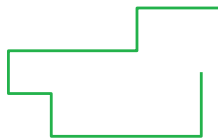
Is the shape a polygon? Write *yes* or *no*.

8.



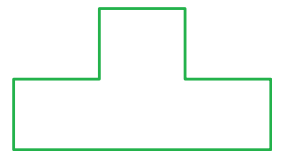
\_\_\_\_\_

9.



\_\_\_\_\_

10.



\_\_\_\_\_

Write the number of sides and the number of angles. Then name the polygon.

11.



\_\_\_\_\_ sides

\_\_\_\_\_ angles

\_\_\_\_\_

12.

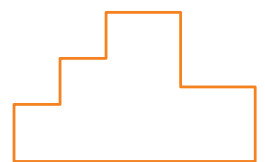


\_\_\_\_\_ sides

\_\_\_\_\_ angles

\_\_\_\_\_

13.



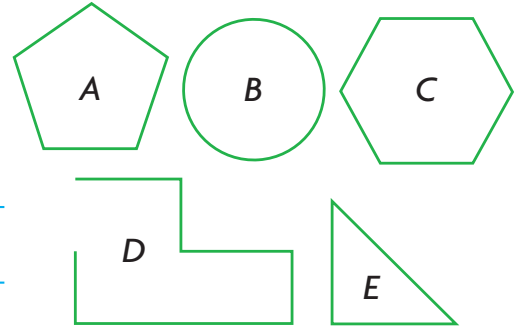
\_\_\_\_\_ sides

\_\_\_\_\_ angles

\_\_\_\_\_

# Problem Solving.....

14. **Write Math** **Sense or Nonsense?** Jake said Shapes A–E are all polygons. Does this statement make sense? **Explain** your answer.




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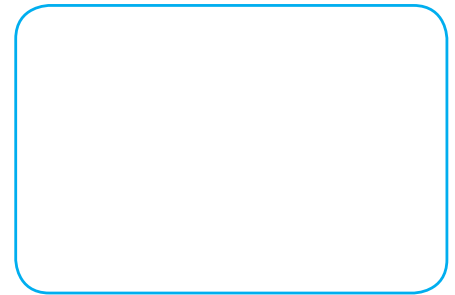
15. **What if** Kim wants to draw a polygon? How can she check her drawing?

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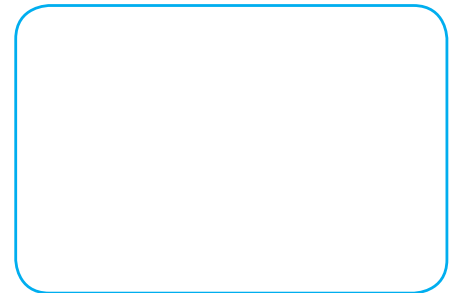


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16. I am a closed shape made of 6 line segments. I have 2 angles less than a right angle and no right angles. What shape am I? Draw an example in the workspace.



17. **H.O.T.** Is every closed shape a polygon? Use a drawing to help **explain** your answer.



18. **What's the Error?** Eric says that the shape at the right is an octagon. Do you agree or disagree?



**Explain.** \_\_\_\_\_

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19. **Test Prep** Alicia drew the polygon at the right. What is the name of the polygon she drew?



- (A) octagon       (C) pentagon  
 (B) hexagon       (D) quadrilateral

Name \_\_\_\_\_

## Identify Polygons

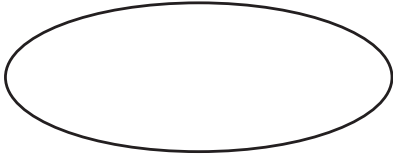


COMMON CORE STANDARD MACC.3.G.1.1

Reason with shapes and their attributes.

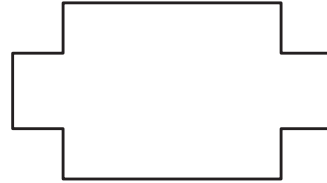
Is the shape a polygon? Write *yes* or *no*.

1.



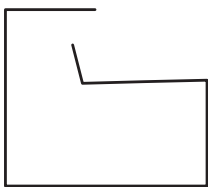
no

2.



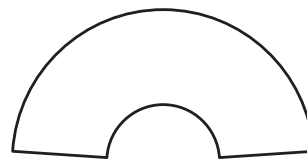
\_\_\_\_\_

3.



\_\_\_\_\_

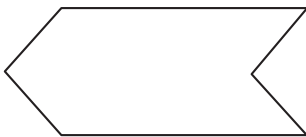
4.



\_\_\_\_\_

Write the number of sides and the number of angles. Then name the polygon.

5.



\_\_\_\_\_ sides

\_\_\_\_\_ angles

\_\_\_\_\_

6.



\_\_\_\_\_ sides

\_\_\_\_\_ angles

\_\_\_\_\_

## Problem Solving **REAL WORLD**

7. Mr. Murphy has an old coin that has ten sides. If its shape is a polygon, how many angles does the old coin have?

\_\_\_\_\_

8. Lin says that an octagon has six sides. Chris says that it has eight sides. Whose statement is correct?

\_\_\_\_\_



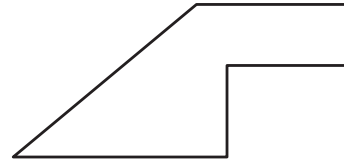
**Lesson Check** (MACC.3.G.1.1)

1. Which is a name for this polygon?



- (A) hexagon
- (B) octagon
- (C) quadrilateral
- (D) pentagon

2. How many sides does this polygon have?



- (A) 4
- (B) 5
- (C) 6
- (D) 7

**Spiral Review** (MACC.3.NF.1.1, MACC.3.G.1.1)

3. How many right angles does this shape have? (Lesson 12.2)



- (A) 4
- (B) 3
- (C) 2
- (D) 0

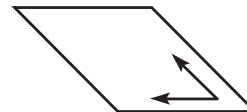
4. Erica has 8 necklaces. One fourth of the necklaces are blue. How many necklaces are blue? (Lesson 8.9)

- (A) 2
- (B) 3
- (C) 4
- (D) 8

5. Which of these is straight, is part of a line, and has 2 endpoints? (Lesson 12.1)

- (A) line
- (B) line segment
- (C) point
- (D) ray

6. What describes this angle? (Lesson 12.2)



- (A) greater than a right angle
- (B) large angle
- (C) less than a right angle
- (D) right angle