Eureka Math

3rd Grade
Module 7
Lesson 17

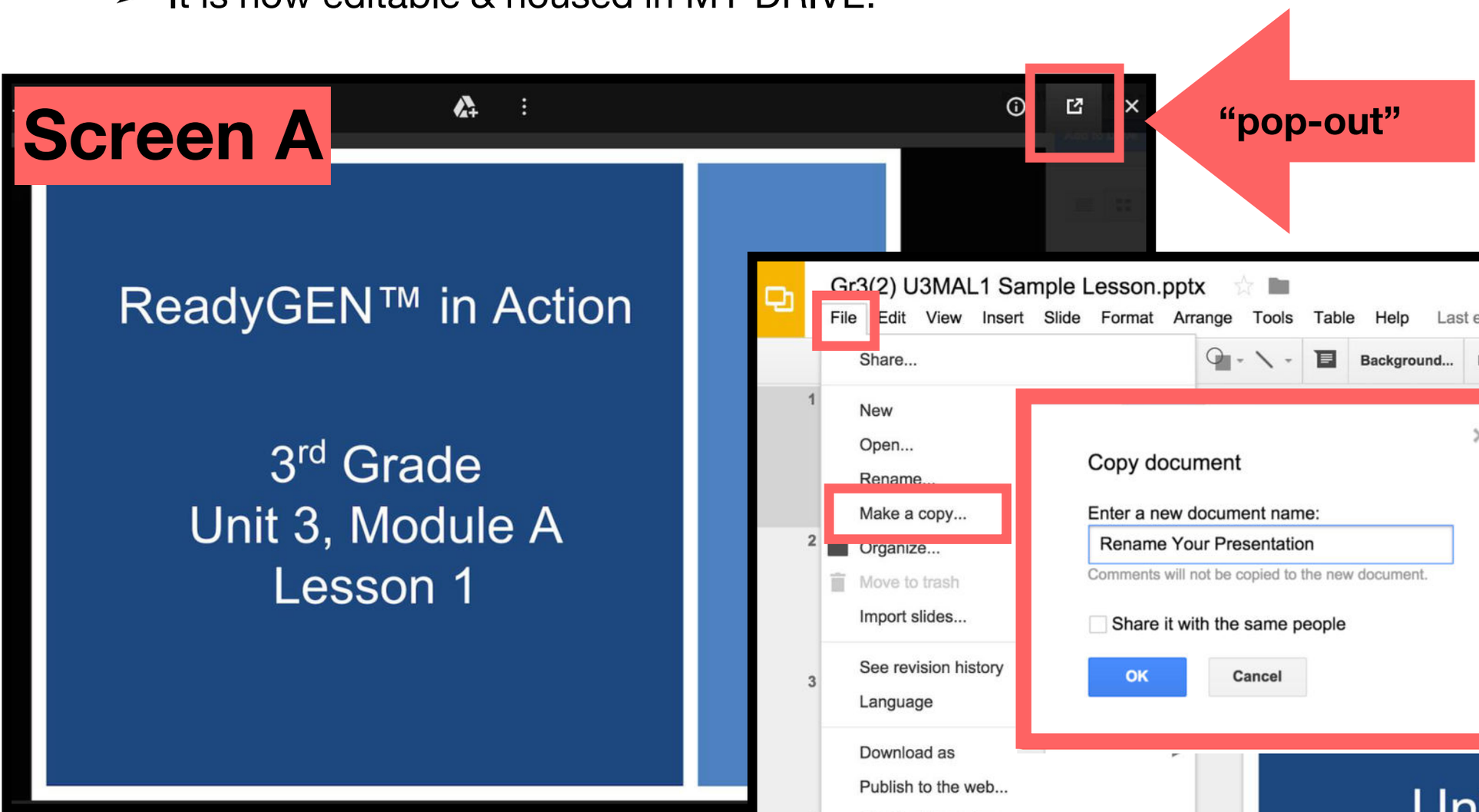
At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this project!

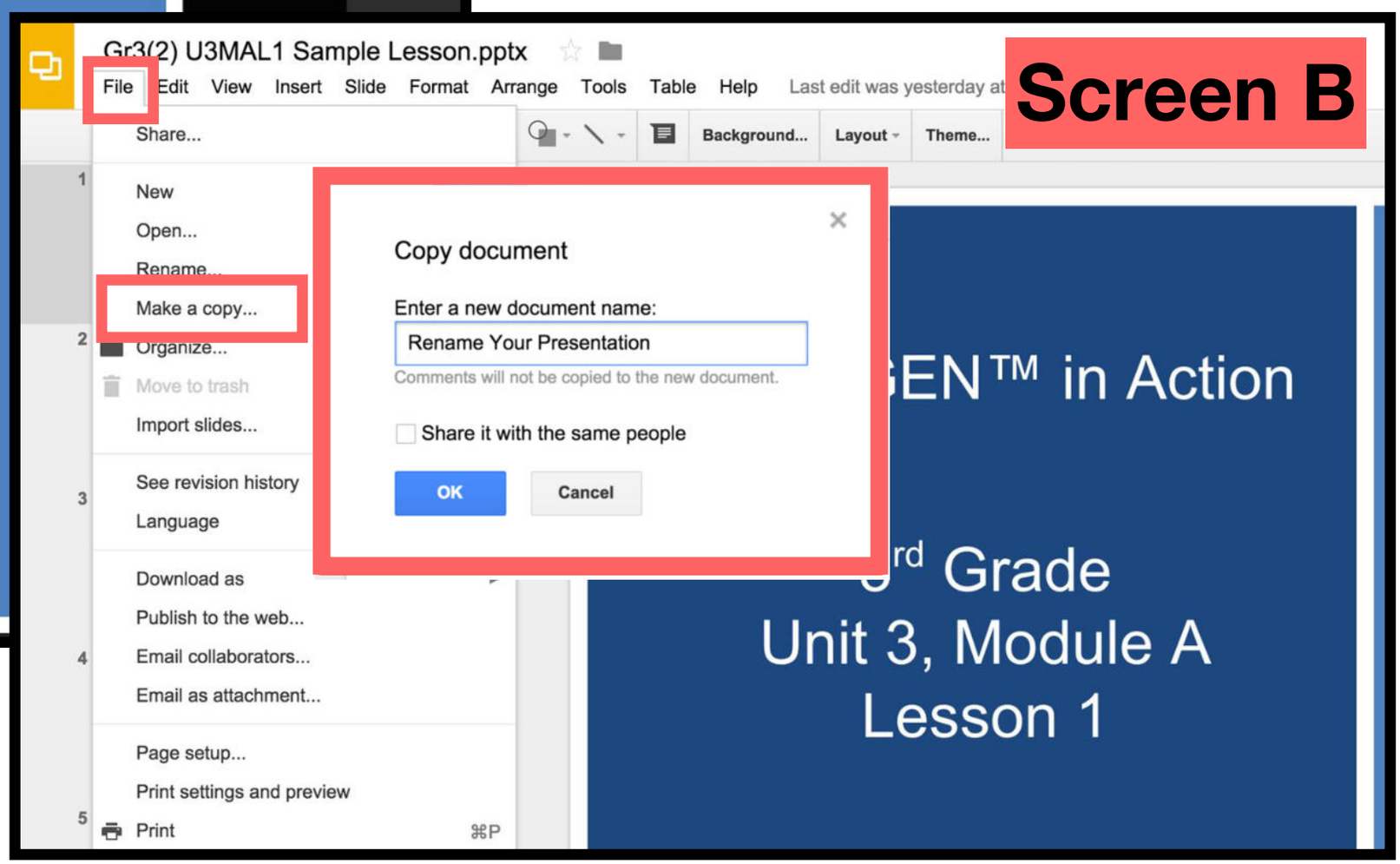
Directions for customizing presentations are available on the next slide.

Customize this Slideshow

Reflecting your Teaching Style and Learning Needs of Your Students

- When the Google Slides presentation is opened, it will look like Screen A.
- Click on the “pop-out” button in the upper right hand corner to change the view.
- The view now looks like Screen B.
- Within Google Slides (not Chrome), choose FILE.
- Choose MAKE A COPY and rename your presentation.
- Google Slides will open your renamed presentation.
- It is now editable & housed in MY DRIVE.





Icons

Read, Draw, Write

Learning Target

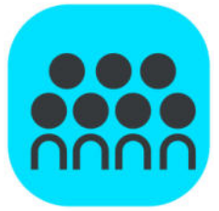
Personal White Board

Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

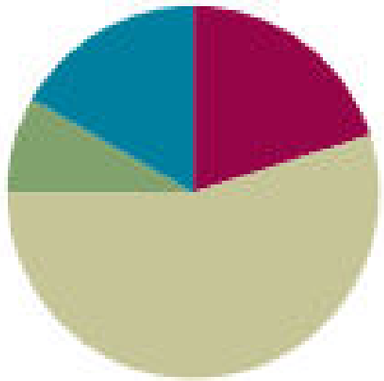
Small Group Time

Lesson 17

Objective: Use all four operations to solve problems involving perimeter and unknown measurements.

Suggested Lesson Structure

Fluency Practice	(12 minutes)
Application Problem	(5 minutes)
Concept Development	(33 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**



I can use all four operations to solve problems involving perimeter and unknown measurements.

Fluency Practice

Factors (4 minutes)

$8 \times \_\_ = 8$

Say the equation, filling in the unknown factor.

$2 \times \_\_ = 8$

Say the equation, filling in the unknown factor.

$\_\_\_ \times 2 = 8$

Write the equation, filling in the unknown factor. Continue with the following possible sequence of products: 12, 15, and 24.

Fluency Practice

Equivalent Counting with Units of 8 (4 minutes)

Count by eights to 0

8, 16, 24, 32, 40, 48, 56, 64, 72, 80

Count to 10 eights.

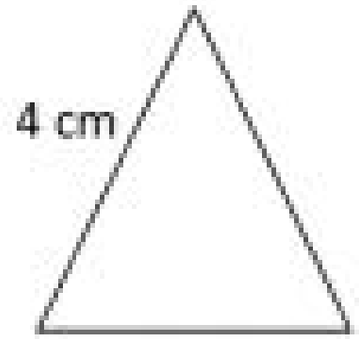
8	16	24	32	40	48	56	64	72	80
1 eight	2 eights	3 eights	4 eights	5 eights	6 eights	7 eights	8 eights	9 eights	10 eights

Let’s count to 10 eights again. This time, stop when I raise my hand.

Say the multiplication sentence. Let’s count back down, starting at 10 sixes. When I raise my hand, stop.

Fluency Practice

Find the Perimeter (4 minutes)



Each shape that I show you is a regular polygon.

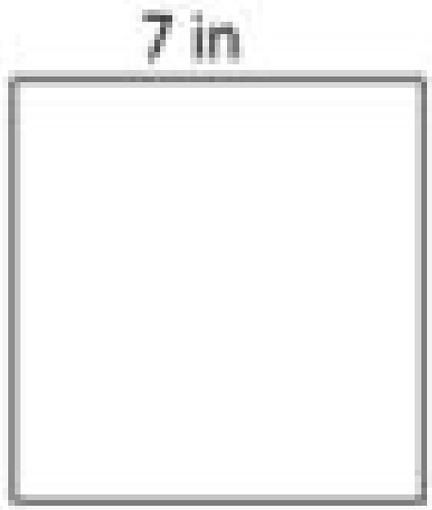
What is the given side length of the triangle?

Fill in the factors. P = ___ × ___ cm

What is the perimeter of the triangle?

Fluency Practice

Find the Perimeter (4 minutes)



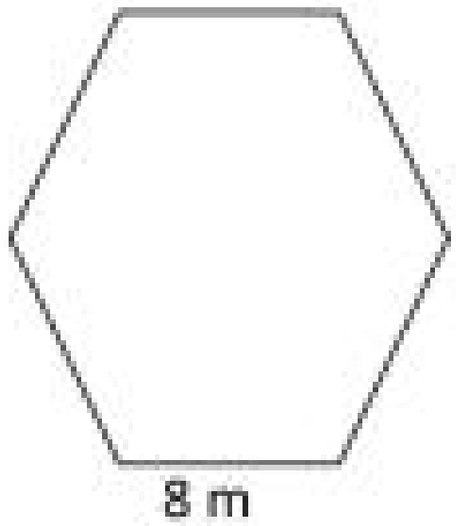
What is the given side length of the square?

Fill in the factors. P = ___ × ___ cm

What is the perimeter of the square?

Fluency Practice

Find the Perimeter (4 minutes)



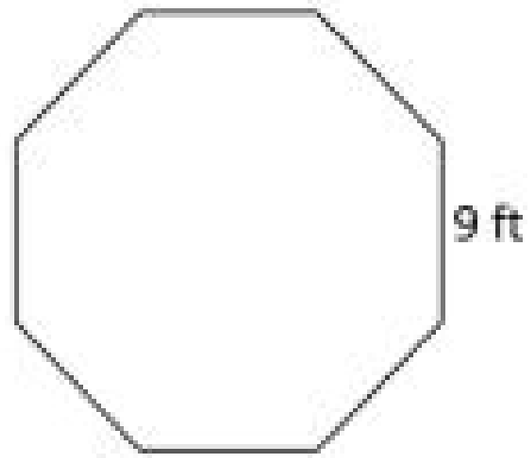
What is the given side length of the hexagon?

Fill in the factors. P = ___ × ___ cm

What is the perimeter of the hexagon?

Fluency Practice

Find the Perimeter (4 minutes)



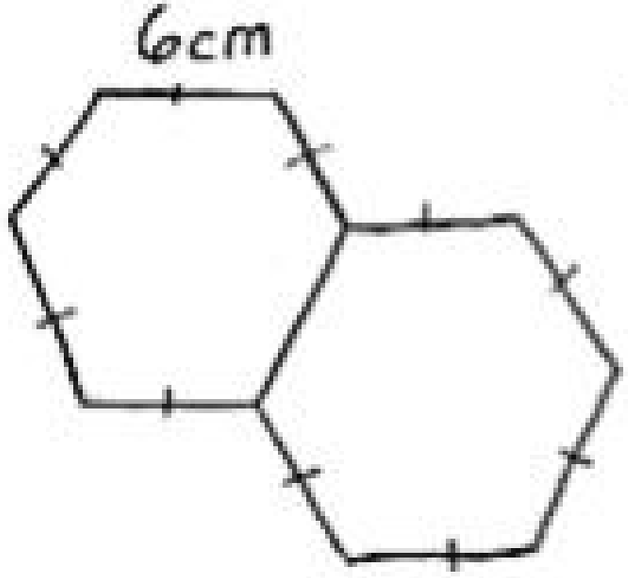
What is the given side length of the octagon?

Fill in the factors. P = ___ × ___ cm

What is the perimeter of the octagon?

Application Problem

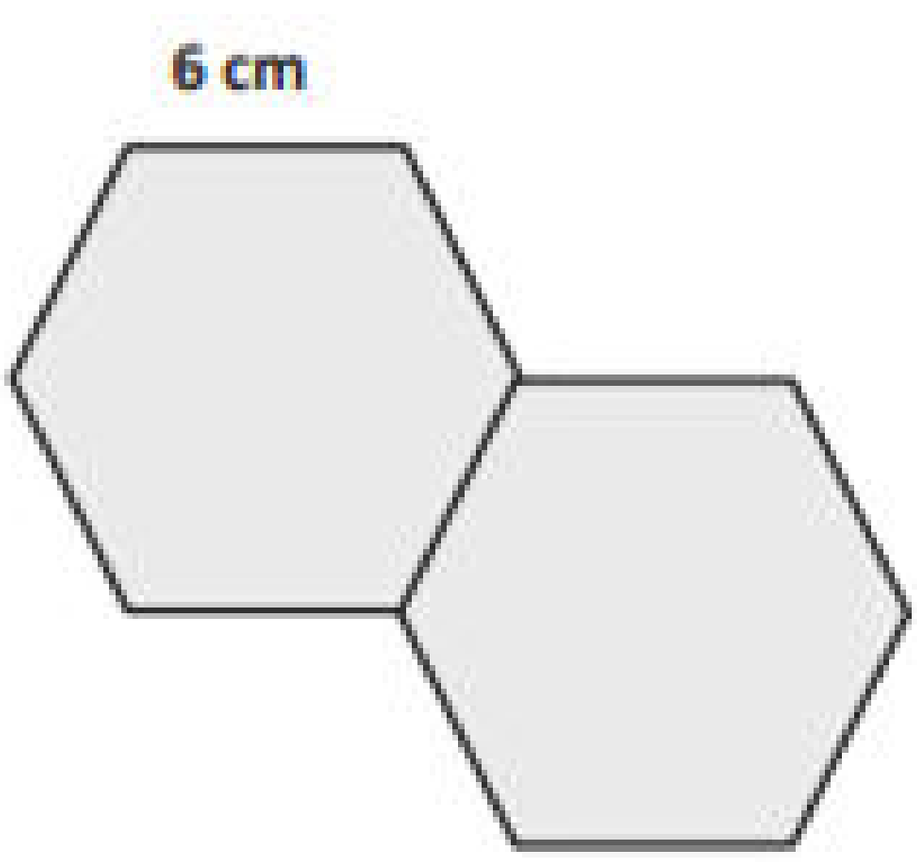
Gil places two regular hexagons side by side as shown to make a new shape. Each side measures 6 centimeters. Find the perimeter of his new shape.



There are 10 sides in Gil's new shape.

$10 \times 6 = 60$

The perimeter of the shape is 60 cm.

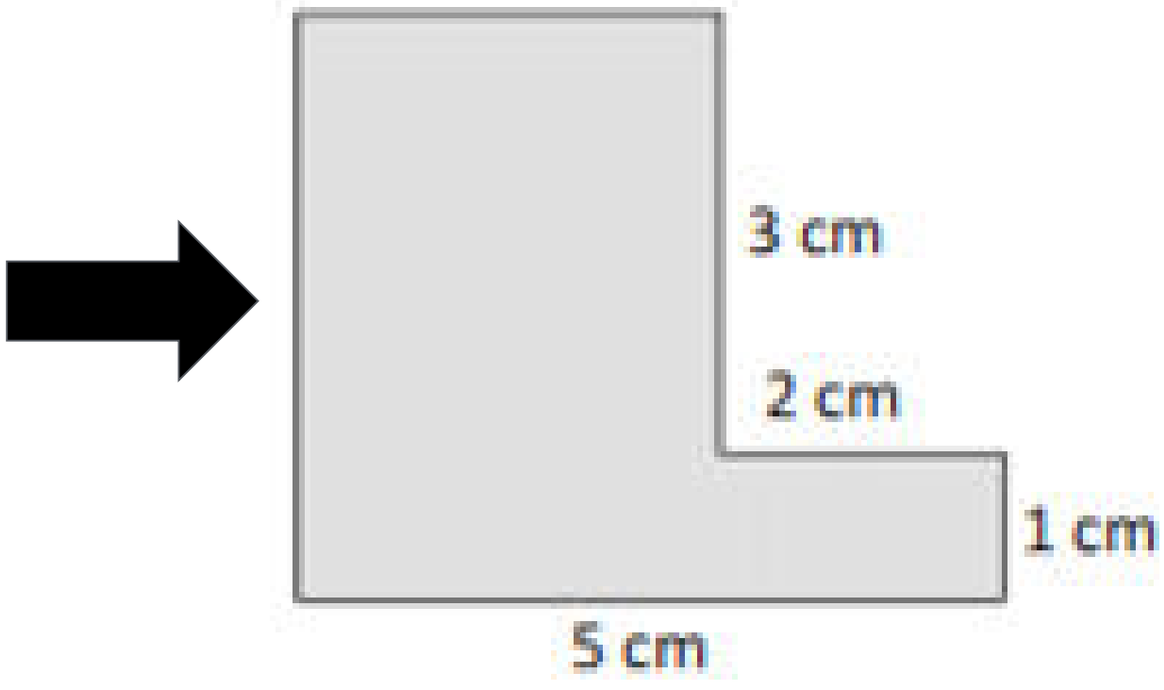


Concept Development

Can you visualize the rectangles that make up this shape?
Let's find the perimeter of the shape.

Let's call this side length a and label the unit with centimeters.

Let's call this side length b and label the unit with centimeters.

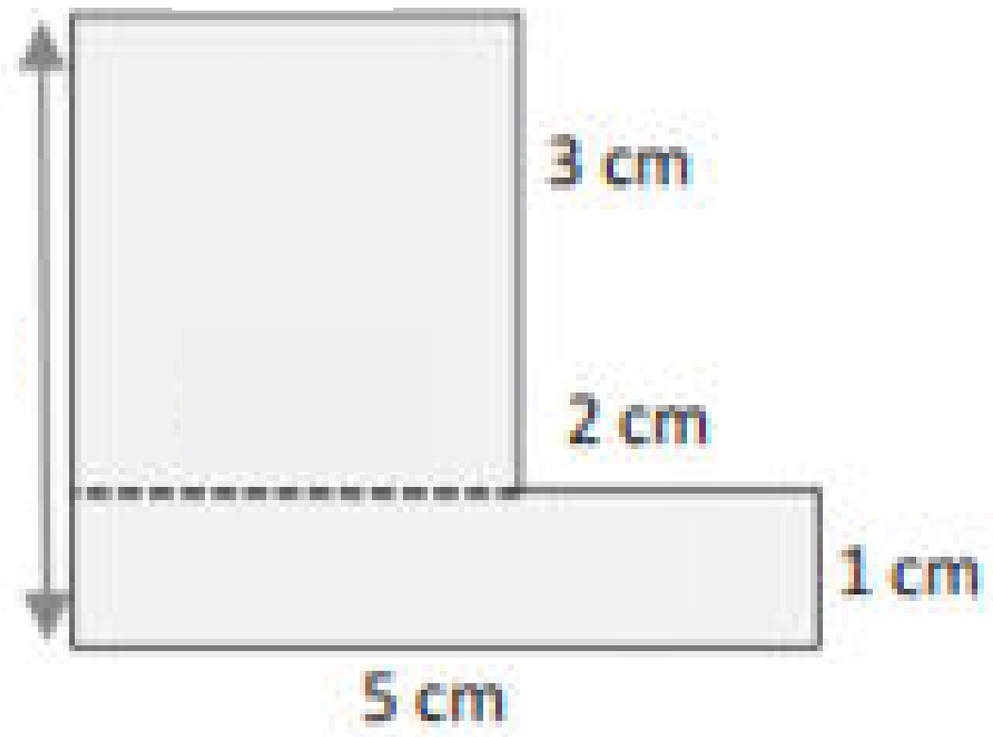


Concept Development

Think back to how you visualized rectangles fitting together to make this shape. This is one way to visualize the rectangles. How does the line help you find the unknown side lengths?

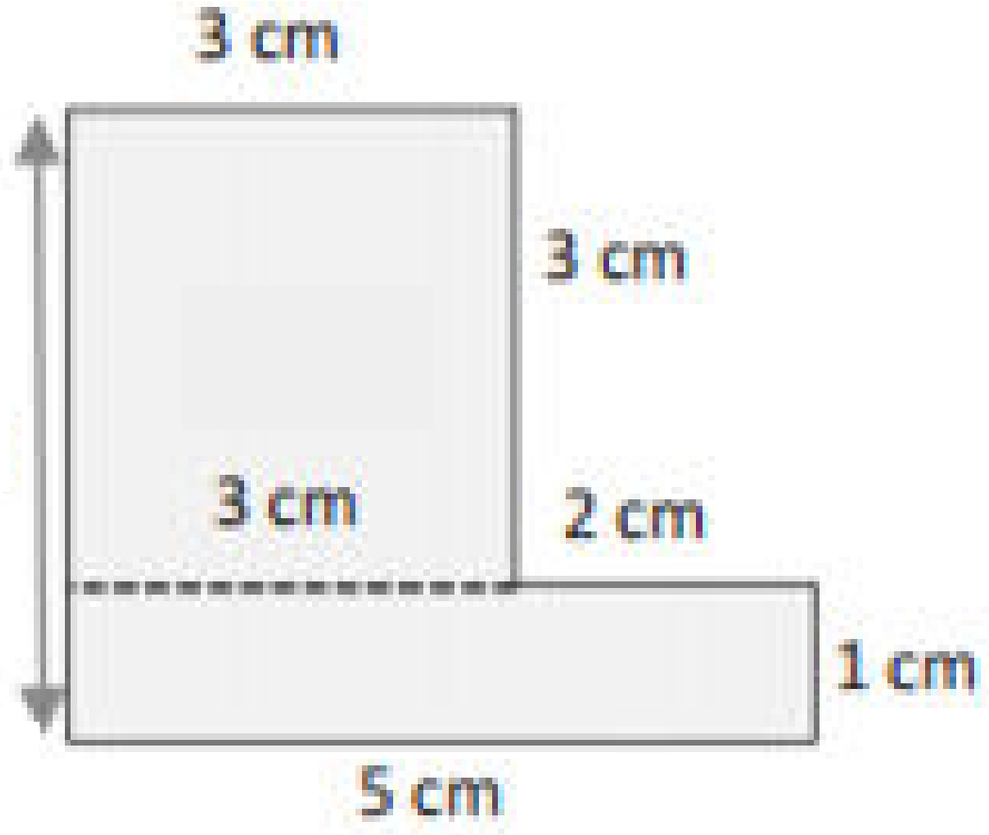
Work with a partner. Use the bottom rectangle to find the length of the dashed line.

The dashed line is 3 centimeters. How does this help us find the value of a?



Concept Development

Look at the side lengths for the top rectangle. We know that three side lengths are 3 centimeters. What does that tell us about the fourth side length?



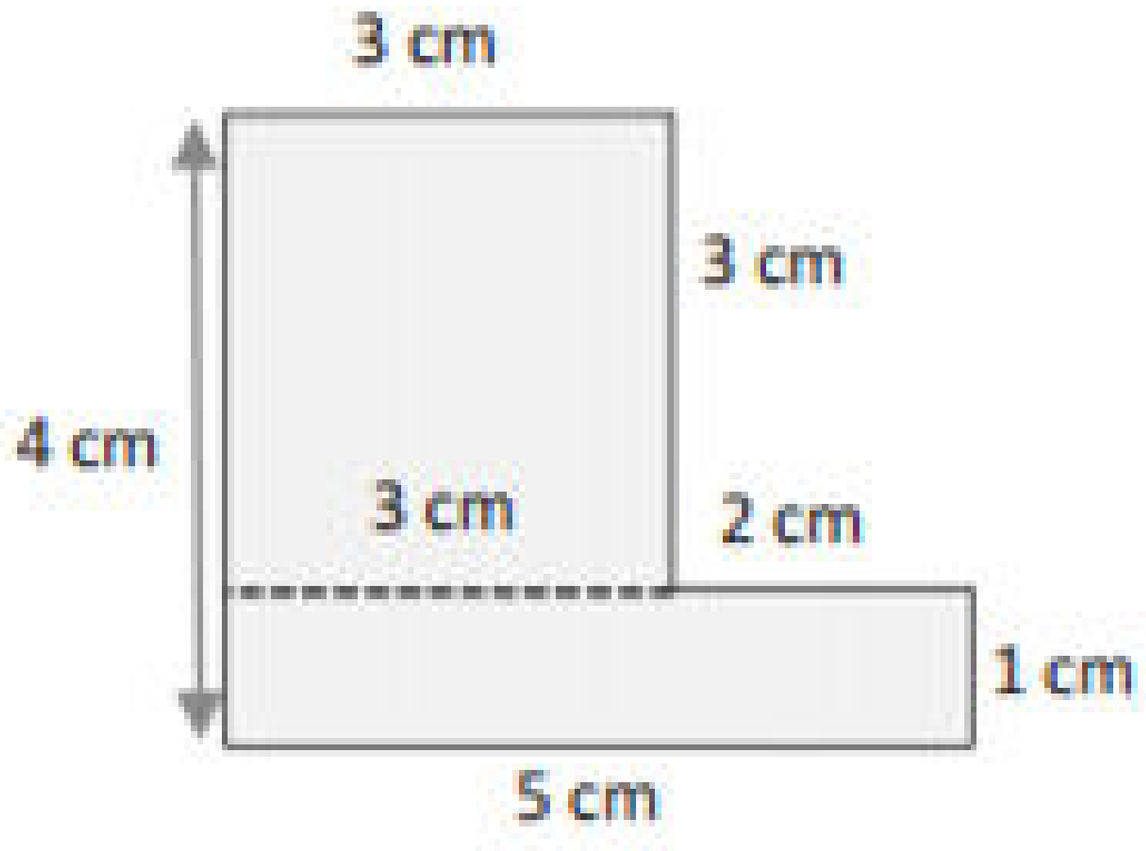
Does that mean that b is 3, too?

Work with a partner to find the total length of b.

What is the value of b?

Concept Development

Write a number sentence, including units, that shows the perimeter of this shape.

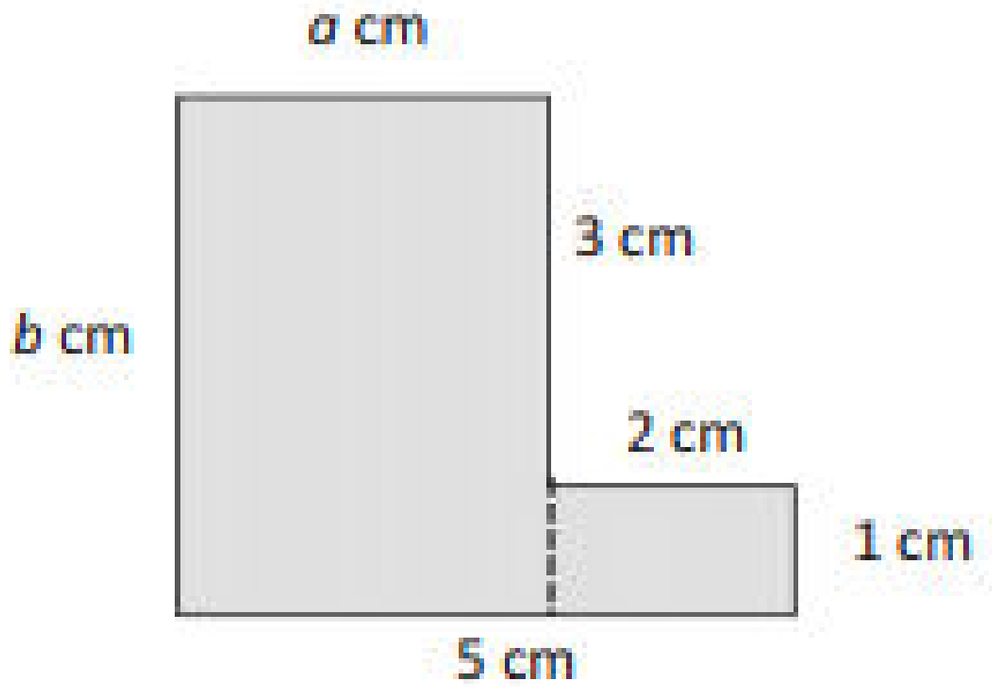


What is the perimeter of the shape?

P = 18 cm

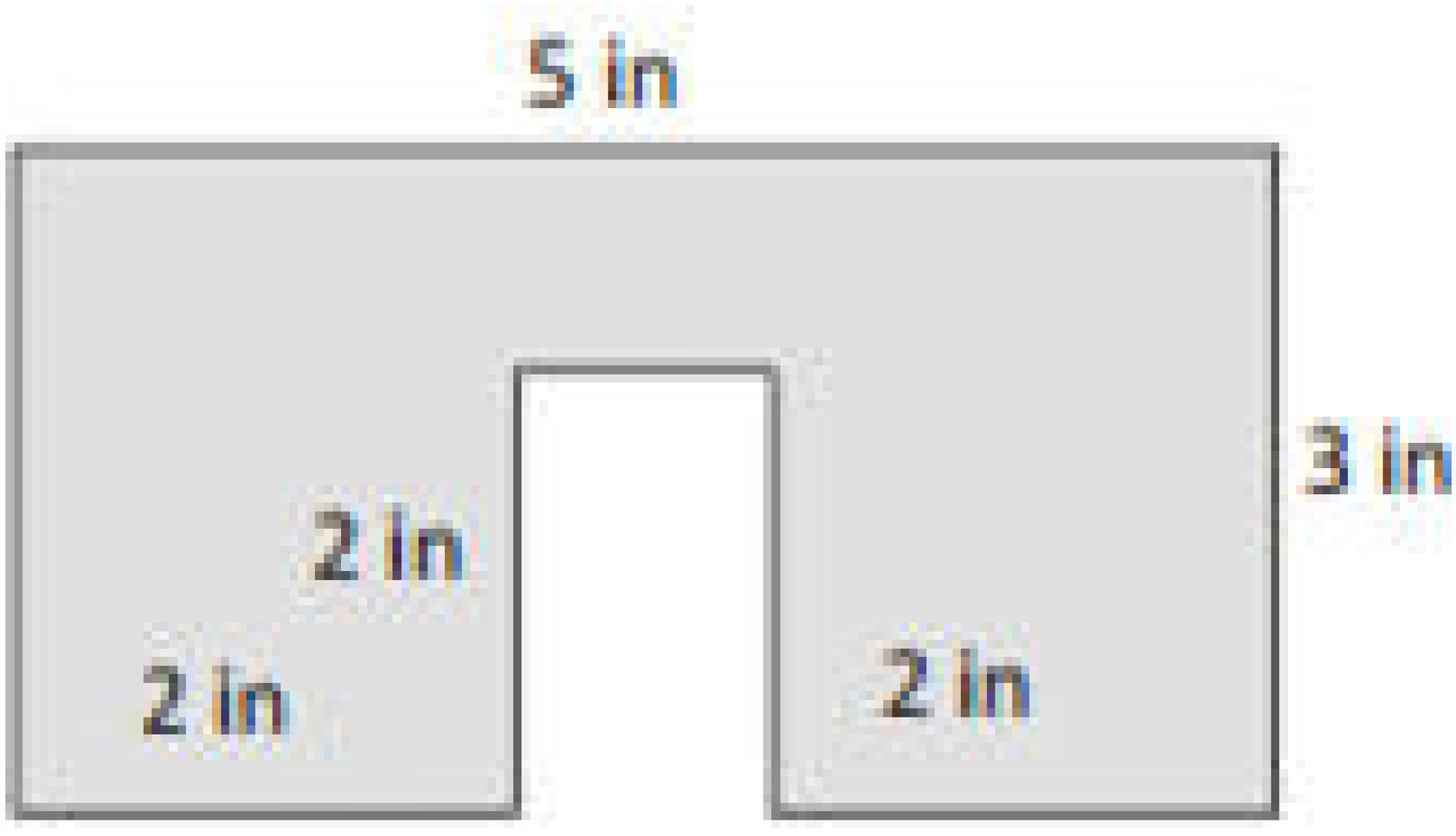
Concept Development

Discuss with a partner how you would solve by visualizing the rectangles this way instead.



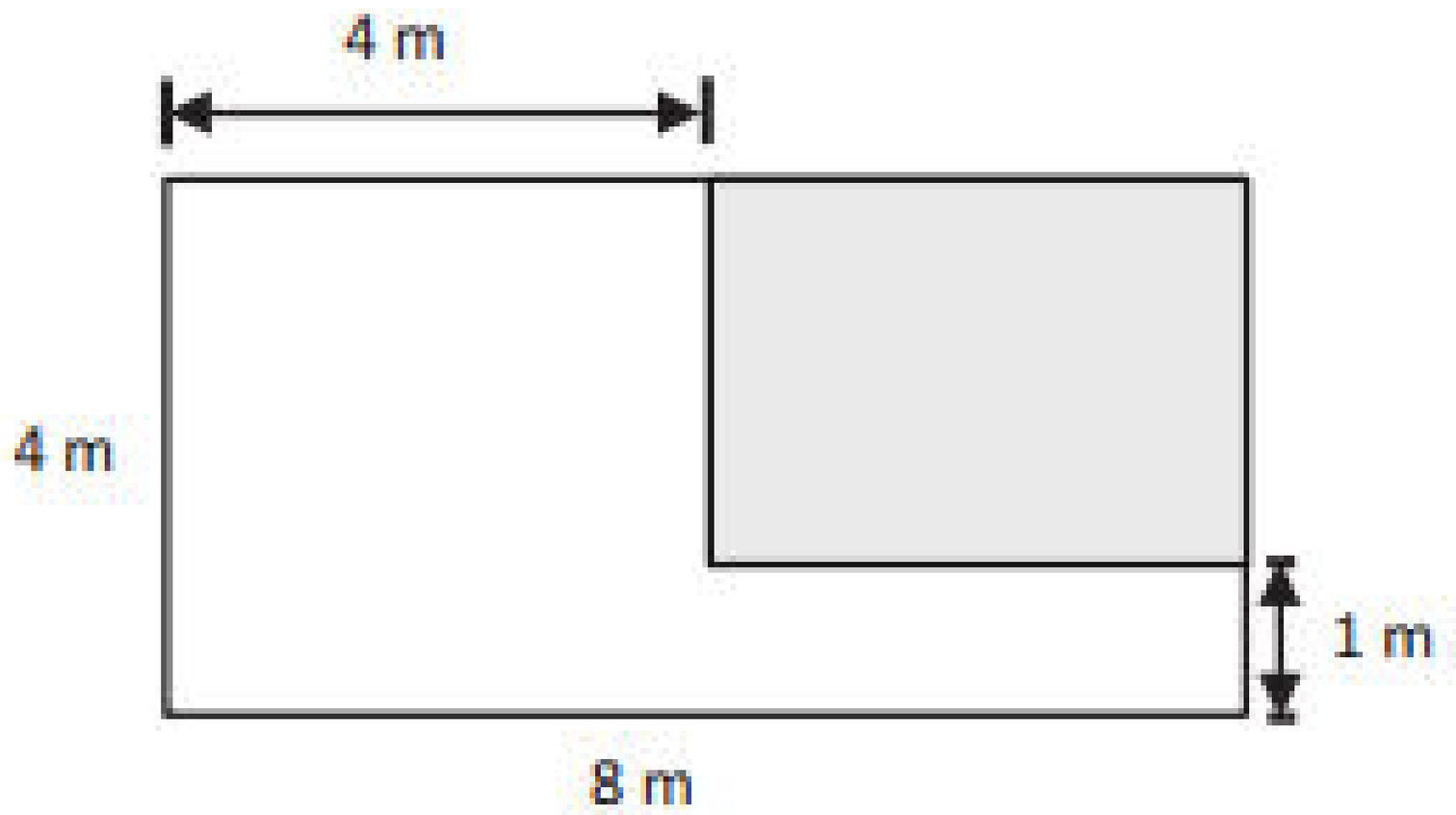
Concept Development

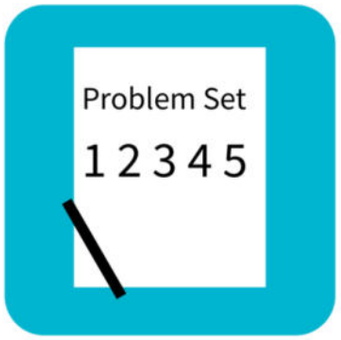
Now try this shape!



Concept Development

Now try this shape!



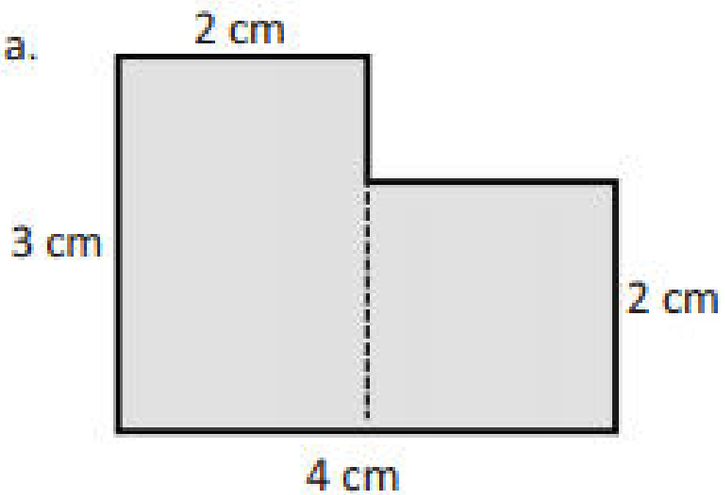


Problem Set

Name _____ Date _____

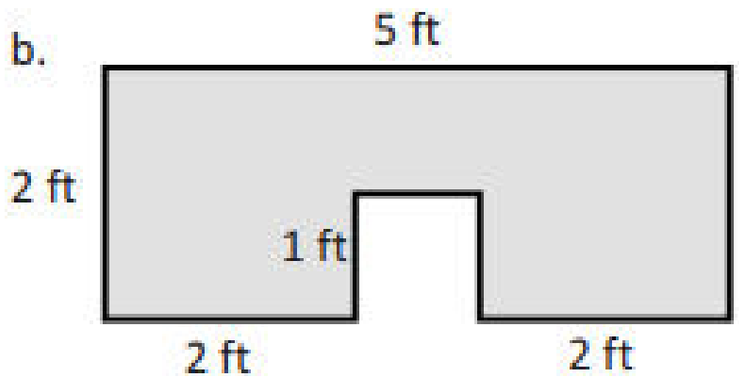
1. The shapes below are made up of rectangles. Label the unknown side lengths. Then, write and solve an equation to find the perimeter of each shape.

a.



P =

b.



P =

Debrief

- Compare strategies for finding the unknown side lengths in Problem 1.
- How was finding the unknown side lengths in Problem 1(b) different from finding the unknown side lengths in the rest of the shapes in Problem 1?
- Do the sizes of the shapes in Problem 1 accurately reflect the given units for each side length? Why or why not?
- Explain to your partner how you solved Problem 2. What strategy did you use to find the unknown side lengths? What strategy did you use to add the side lengths?
- What is the perimeter of the unshaded shape in Problem 3? The large rectangle?
- What attribute about rectangles helped you find the perimeters of the shapes today?

Exit Ticket (3 minutes)

Name _____ Date _____

Label the unknown side lengths. Then, find the perimeter of the shaded rectangle.