- Name
   Date
- 1. Use triangle pattern blocks to cover each shape below. Draw lines to show where the triangles meet. Then, write how many triangle pattern blocks it takes to cover each shape.



2. Use rhombus pattern blocks to cover each shape below. Draw lines to show where the rhombuses meet. Then, write how many rhombus pattern blocks it takes to cover each shape.



3. Use trapezoid pattern blocks to cover each shape below. Draw lines to show where the trapezoids meet. Then, write how many trapezoid pattern blocks it requires to cover each shape.



4. How is the number of pattern blocks needed to cover the same shape related to the size of the pattern blocks?

5. Use square pattern blocks to cover the rectangle below. Draw lines to show where the squares meet. Then, write how many square pattern blocks it requires to cover the rectangle.



\_\_\_\_\_ squares

6. Use trapezoid pattern blocks to cover the rectangle in Problem 5. Can you use trapezoid pattern blocks to measure the area of this rectangle? Explain your answer.



Understand area as an attribute of plane figures. 8/12/14



Date \_\_\_\_\_

## 1. Use all of Paper Strip 1, which you cut into 12 square inches, to complete the chart below.

	Drawing	Area
Rectangle A		
Rectangle B		
Rectangle C		

2. Use all of Paper Strip 2, which you cut into 12 square centimeters, to complete the chart below.

	Drawing	Area
Rectangle A		
Rectangle B		
Rectangle C		



Decompose and recompose shapes to compare areas. 8/12/14



3. Compare the areas of the rectangles you made with Paper Strip 1 and Paper Strip 2. What changed? Why did it change?

4. Maggie uses her square inch pieces to create these two rectangles. Do the two rectangles have the same area? How do you know?





Shape B

5. Count to find the area of the rectangle below. Then, draw a different rectangle that has the same area.



Decompose and recompose shapes to compare areas. 8/12/14



NYS COMMO	ON CORE	MATHEMATICS	<b>CURRICULUM</b>
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Name	Date	

1. Each is 1 square unit. What is the area of each of the following rectangles?

			 			 		A:
	A			В				
							ļ	B:
								C:
	С				D			D:

2. Each is 1 square unit. What is the area of each of the following rectangles?











Lesson 3: Date:

8/15/14

Model tiling with centimeter and inch unit squares as a strategy to measure area.



3. a. How would the rectangles in Problem 1 be different if they were composed of square inches?

b. Select one rectangle from Problem 1 and recreate it on square inch and square centimeter grid paper.

4. Use a separate piece of square centimeter grid paper. Draw four different rectangles that each has an area of 8 square centimeters.



Model tiling with centimeter and inch unit squares as a strategy to measure area. 8/15/14



centimeter grid

COMMON CORE Lesson 3: Date:

8/15/14

Model tiling with centimeter and inch unit squares as a strategy to measure area.

engage<sup>ny</sup>

Γ

inch grid

COMMON CORE Lesson 3: Date: Model tiling with centimeter and inch unit squares as a strategy to measure area. 8/15/14



Date			
Date			

1. Use a ruler to measure the side lengths of the rectangle in centimeters. Mark each centimeter with a point and connect the points to show the square units. Then, count the squares you drew to find the total area.

Total area: \_\_\_\_\_

2. Use a ruler to measure the side lengths of the rectangle in inches. Mark each inch with a point and connect the points to show the square units. Then, count the squares you drew to find the total area.

Total area:

3. Mariana uses square centimeter tiles to find the side lengths of the rectangle below. Label each side length. Then, count the tiles to find the total area.



Total area: \_\_\_\_\_



Relate side lengths with the number of tiles on a side. 8/15/14



4. Each is 1 square centimeter. Saffron says that the side length of the rectangle below is 4 centimeters. Kevin says the side length is 5 centimeters. Who is correct? Explain how you know.

5. Use both square centimeter and square inch tiles to find the area of the rectangle below. Which works best? Explain why.



6. How does knowing side lengths A and B help you find side lengths C and D on the rectangle below?





Lesson 4: Date: Relate side lengths with the number of tiles on a side. 8/15/14



Date \_\_\_\_\_

- 1. Use the centimeter side of a ruler to draw in the tiles, then skip-count to find the unknown side length or area. Write a multiplication sentence for each tiled rectangle.
  - a. Area: **18** square centimeters. **3** cm 3 cm
    - b. Area: \_\_\_\_\_ square centimeters. 5 cm 4 cm

\_\_\_\_\_×\_\_\_\_=\_\_\_\_

c. Area: 18 square centimeters.

d. Area: 24 square centimeters.







COMMON

Lesson 5: Date: Form rectangles by tiling with unit squares to make arrays. 8/15/14



2. Lindsey makes a rectangle with 35 square inch tiles. She arranges the tiles in 5 equal rows. What are the side lengths of the rectangle? Use words, pictures, and numbers to support your answer.

3. Mark has a total of 24 square inch tiles. He uses 18 square inch tiles to build one rectangular array. He uses the remaining square inch tiles to build a second rectangular array. Draw two arrays that Mark might have made. Then, write multiplication sentences for each.

- 4. Leon makes a rectangle with 32 square centimeter tiles. There are 4 equal rows of tiles.
  - a. How many tiles are in each row? Use words, pictures, and numbers to support your answer.

b. Can Leon arrange all of his 32 square centimeter tiles into 6 equal rows? Explain your answer.



Form rectangles by tiling with unit squares to make arrays. 8/15/14



Date \_\_\_\_\_

1. Each represents a 1 cm square. Draw to find the number of rows and columns in each array. Match it to its completed array. Then, fill in the blanks to make a true equation to find each array's area.















COMMON

ORE

Draw rows and columns to determine the area of a rectangle given an incomplete array. 8/15/14



Lesson 6:

Date:

2. Sheena skip-counts by sixes to find the total square units in the rectangle below. She says there are 42 square units. Is she right? Explain your answer.



3. The tile floor in Brandon's living room has a rug on it as shown below. How many square tiles are on the floor, including the tiles under the rug?



4. Abdul is creating a stained glass window with square inch glass tiles as shown below. How many more square inch glass tiles does Abdul need to finish his glass window? Explain your answer.





Lesson 6: Date: Draw rows and columns to determine the area of a rectangle given an incomplete array. 8/15/14



array 1

COMMON CORE Lesson 6: Date: Draw rows and columns to determine the area of a rectangle given an incomplete array. 8/15/14



array 2

COMMON CORE Lesson 6: Date: Draw rows and columns to determine the area of a rectangle given an incomplete array. 8/15/14

engage<sup>ny</sup> 4.B.25

Date \_\_\_\_\_

 Use a straight edge to draw a grid of equal size squares within the rectangle. Find and label the side lengths. Then, multiply the side lengths to find the area.



4.B.32

- 2. The area of Benjamin's bedroom floor is shown on the grid to the right. Each = 1 square foot. How many total square feet is Benjamin's floor?
  - a. Label the side lengths.
  - Use a straight edge to draw a grid of equal size squares within the rectangle.
  - c. Find the total number of squares.



Mrs. Young's art class needs to create a mural that covers exactly 35 square feet.
 Mrs. Young marks the area for the mural as shown on the grid. Each = 1 square foot.
 Did she mark the area correctly? Explain your answer.



- 4. Mrs. Barnes draws a rectangular array. Mila skip-counts by fours and Jorge skip-counts by sixes to find the total number of square units in the array. When they give their answers, Mrs. Barnes says that they are both right.
  - a. Use pictures, numbers, and words to explain how Mila and Jorge can both be right.

b. How many square units might Mrs. Barnes' array have had?



Interpret area models to form rectangular arrays. 8/15/14



4.B.33

area model

COMMON CORE

Lesson 7: Date:

Interpret area models to form rectangular arrays. 8/15/14



Date \_\_\_\_\_

1. Write a multiplication equation to find the area of each rectangle.



2. Write a multiplication equation and a division equation to find the unknown side length for each rectangle.



3. On the grid below, draw a rectangle that has an area of 42 square inches. Label the side lengths.





Lesson 8: Date: Find the area of a rectangle through multiplication of the side lengths. 8/15/14



4. Ursa draws a rectangle that has side lengths of 9 centimeters and 6 centimeters. What is the area of the rectangle? Explain how you found your answer.

5. Eliza's bedroom measures 6 feet by 7 feet. Her brother's bedroom measures 5 feet by 8 feet. Eliza says their rooms have the same exact floor area. Is she right? Why or why not?

6. Cliff draws a rectangle with a side length of 6 inches and an area of 24 square inches. What is the other side length? How do you know?



Find the area of a rectangle through multiplication of the side lengths. 8/15/14



	1	-			-	1					

grid



Lesson 8: Date:

Find the area of a rectangle through multiplication of the side lengths. 8/15/14

engage<sup>ny</sup> 4.B.50

Date \_\_\_\_\_

- 1. Cut the grid into 2 equal rectangles.
  - a. Draw and label the side lengths of the 2 rectangles.

- b. Write an equation to find the area of 1 of the rectangles.
- c. Write an equation to show the total area of the 2 rectangles.
- 2. Place your 2 equal rectangles side by side to create a new, longer rectangle.
  - a. Draw an area model to show the new rectangle. Label the side lengths.

b. Find the total area of the longer rectangle.



Analyze different rectangles and reason about their area. 8/26/14



4.C.8

3. Furaha and Rahema use square tiles to make the rectangles shown below.



a. Label the side lengths on the rectangles above, and find the area of each rectangle.

b. Furaha pushes his rectangle next to Rahema's rectangle to form a new, longer rectangle. Draw an area model to show the new rectangle. Label the side lengths.

c. Rahema says the area of the new, longer rectangle is 52 square units. Is she right? Explain your answer.

4. Kiera says she can find the area of the long rectangle below by adding the areas of Rectangles A and B. Is she right? Why or why not?

Rectangle A Rectangle B	
-------------------------	--



Analyze different rectangles and reason about their area. 8/26/14



4.C.9

small centimeter grid



Analyze different rectangles and reason about their area. 8/26/14



Date \_\_\_\_\_

1. Label the side lengths of the shaded and unshaded rectangles when needed. Then, find the total area of the large rectangle by adding the areas of the two smaller rectangles.

b.









Lesson 10: Date: Apply the distributive property as a strategy to find the total area of a large rectangle by adding two products. 8/15/14



4.C.19

2. Vince imagines 1 more row of eight to find the total area of a  $9 \times 8$  rectangle. Explain how this could help him solve  $9 \times 8$ .



3. Break the 15 × 5 rectangle into 2 rectangles by shading one smaller rectangle within it. Then, find the sum of the areas of the 2 smaller rectangles and show how it relates to the total area. Explain your thinking.



Lesson 10: Date: Apply the distributive property as a strategy to find the total area of a large rectangle by adding two products. 8/15/14



4.C.20



tiling

COMMON CORE Lesson 10: Date: Apply the distributive property as a strategy to find the total area of a large rectangle by adding two products. 8/15/14


Date \_\_\_\_\_

1. The rectangles below have the same area. Move the parentheses to find the missing side lengths. Then, solve.



2. Does Problem 1 show all the possible whole number side lengths for a rectangle with an area of 48 square centimeters? How do you know?



Lesson 11:

Date:

property. 8/15/14

Demonstrate the possible whole number side lengths of rectangles with areas of 24, 36, 48, or 72 square units using the associative





3. In Problem 1, what happens to the shape of the rectangle as the difference between the side lengths gets smaller?

4. a. Find the area of the rectangle below.



b. Julius says a 4 cm by 18 cm rectangle has the same area as the rectangle in Part (a). Place parentheses in the equation to find the related fact and solve. Is Julius correct? Why or why not?



c. Use the expression 8 × 9 to find different side lengths for a rectangle that has the same area as the rectangle in Part (a). Show your equations using parentheses. Then, estimate to draw the rectangle and label the side lengths.



Lesson 11:

Date:

Demonstrate the possible whole number side lengths of rectangles with areas of 24, 36, 48, or 72 square units using the associative property. 8/15/14





Date \_\_\_\_\_

1. Each side on a sticky note measures 9 centimeters. What is the area of the sticky note?

2. Stacy tiles the rectangle below using her square pattern blocks.

-	-

a. Find the area of Stacy's rectangle in square units. Then, draw and label a different rectangle with whole number side lengths that has the same area.

b. Can you draw another rectangle with different whole number side lengths and have the same area? Explain how you know.



Solve word problems involving area. 8/15/14



3. An artist paints a 4 × 16 foot mural on a wall. What is the total area of the mural? Use the break apart and distribute strategy.



4. Alana tiles the 3 figures below. She says, "I'm making a pattern!"



- a. Find the area of Alana's 3 figures and explain her pattern.
- b. Draw the next 2 figures in Alana's pattern and find their areas.
- 5. Jermaine glues 3 identical pieces of paper as shown below and makes a square. Find the unknown side length of 1 piece of paper. Then, find the total area of 2 pieces of paper.





Lesson 12: Date: Solve word problems involving area. 8/15/14



Date \_\_\_\_\_

1. Each of the following figures is made up of 2 rectangles. Find the total area of each figure.

F	igur	e 1																		
										F	igur	e 2								
		Α												с						
	В													D						
					Е						F	igur	e 4							
	Figur	e 3																		
			F																	
														G						
																	Н			
Figure 1 Figure 2																				
Figure 3 Figure 4																				
OMMO				son 1		Fir	nd are	as by	decon n recta	nposin	ıg into					te	er	າດ	age	e,

2. The figure shows a small rectangle cut out of a bigger rectangle. Find the area of the shaded figure.



3. The figure shows a small rectangle cut out of a big rectangle.





Lesson 13: Date: Find areas by decomposing into rectangles or completing composite figures to form rectangles. 8/12/14




large grid

COMMON CORE Lesson 13: Date: Find areas by decomposing into rectangles or completing composite figures to form rectangles. 8/12/14



Name

Date \_\_\_\_\_

1. Find the area of each of the following figures. All figures are made up of rectangles.



2. The figure below shows a small rectangle in a big rectangle. Find the area of the shaded part of the figure.





Lesson 14: Date: Find areas by decomposing into rectangles or completing composite figures to form rectangles. 8/15/14



3. A paper rectangle has a length of 6 inches and a width of 8 inches. A square with a side length of 3 inches was cut out of it. What is the area of the remaining paper?

4. Tila and Evan both have paper rectangles measuring 6 cm by 9 cm. Tila cuts a 3 cm by 4 cm rectangle out of hers, and Evan cuts a 2 cm by 6 cm rectangle out of his. Tila says she has more paper left over. Evan says they have the same amount. Who is correct? Show your work below.



Lesson 14: Date: Find areas by decomposing into rectangles or completing composite figures to form rectangles. 8/15/14



Date \_\_\_\_\_

1. Make a prediction: Which room looks like it has the biggest area?

2. Record the areas and show the strategy you used to find each area.

Room	Area	Strategy
Bedroom 1	sq cm	
Bedroom 2	sq cm	
Kitchen	sq cm	
Hallway	sq cm	
Bathroom	sq cm	
Dining Room	sq cm	
Living Room	sq cm	



Lesson 15:

Date:

Apply knowledge of area to determine areas of rooms in a given floor

8/12/14

plan.



3. Which room has the biggest area? Was your prediction right? Why or why not?

4. Find the side lengths of the house without using your ruler to measure them, and explain the process you used.

Side lengths: \_\_\_\_\_ centimeters and \_\_\_\_\_ centimeters

5. What is the area of the whole floor plan? How do you know?

Area = \_\_\_\_\_\_ square centimeters



8/12/14



The rooms in the floor plan below are rectangles or made up of rectangles.

Bedroom	1		Bathroom		
Kitchen	Hallway	E	3edroom 2		
Dining Room					
	Living F	Room			

Lesson 15: Date:

8/12/14

Apply knowledge of area to determine areas of rooms in a given floor plan.

engage<sup>ny</sup> 4.D.46

Name

Date \_\_\_\_\_

Record the new side lengths you have chosen for each of the rooms and show that these side lengths equal the required area. For non-rectangular rooms, record the side lengths and areas of the small rectangles. Then, show how the areas of the small rectangles equal the required area.

Room	New Side Lengths
Bedroom 1: 60 sq cm	
Bedroom 2: 56 sq cm	
Kitchen: 42 sq cm	



8/15/14

Apply knowledge of area to determine areas of rooms in a given floor plan.

engage<sup>ny</sup> 4.D.54

Room	New Side Lengths
Lallurau	
Hallway:	
24 sq cm	
Bathroom:	
25 sq cm	
Dining Room:	
28 sq cm	
Living Room:	
88 sq cm	



8/15/14

Apply knowledge of area to determine areas of rooms in a given floor plan.

engage<sup>ny</sup> 4.D.55

Date \_\_\_\_\_

- 1. Magnus covers the same shape with triangles, rhombuses, and trapezoids.
  - a. How many triangles will it take to cover the shape?



b. How many rhombuses will it take to cover the shape?



c. Magnus notices that 3 triangles from Part (a) cover 1 trapezoid. How many trapezoids will you need to cover the shape below? Explain your answer.



4.A.11

- 2. Angela uses squares to find the area of a rectangle. Her work is shown below.
  - a. How many squares did she use to cover the rectangle?

	squares

b. What is the area of the rectangle in square units? Explain how you found your answer.







Understand area as an attribute of plane figures. 8/12/14







Decompose and recompose shapes to compare areas. 8/12/14



4.A.22

2. Colin uses square inch pieces to create these rectangles. Do they have the same area? Explain.

3. Each is a square unit. Count to find the area of the rectangle below. Then, draw a different rectangle that has the same area.



Decompose and recompose shapes to compare areas. 8/12/14



Na	me												Date
1.	Each	is 1	squa	are u	ınit.	Wha	nt is t	he a	rea o	ofead	ch of	the	e following rectangles?
													A:square units
		Α						В					
								_					B:
													C:
		с							D				D:
2.	Each	is 1	sans	are i	init	Wha	at is t	he a	rea c	ofea		the	e following rectangles?
2.	Luch	15 1	Squt			vviic						Г	
						1							
	a.										b.		
	c.										d	I.	
	_												



Lesson 3: Date:

8/15/14

Model tiling with centimeter and inch unit squares as a strategy to measure area.



is 1 square unit. Write the area of each rectangle. Then, draw another rectangle with the 3. Each same area in the space provided.





Lesson 3: Date:

8/15/14

Model tiling with centimeter and inch unit squares as a strategy to measure area.





4.A.33

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Date \_\_\_\_\_

1. Ella placed square centimeter tiles on the rectangle below, and then labeled the side lengths. What is the area of her rectangle?



Total area: \_\_\_\_\_

2. Kyle uses square centimeter tiles to find the side lengths of the rectangle below. Label each side length. Then, count the tiles to find the total area.



Total area: \_\_\_\_\_

Maura uses square inch tiles to find the side lengths of the rectangle below. Label each side length. 3. Then, find the total area.



Total area: \_\_\_\_\_



Lesson 4: Date:

Relate side lengths with the number of tiles on a side. 8/15/14



4.A.45



4. Each square unit below is 1 square inch. Claire says that the side length of the rectangle below is 3 inches. Tyler says the side length is 5 inches. Who is correct? Explain how you know.

5. Label the unknown side lengths for the rectangle below, and then find the area. Explain how you used the lengths provided to find the unknown lengths and area.



4.A.46

Date \_\_\_\_\_

- 1. Use the centimeter side of a ruler to draw in the tiles, and then skip-count to find the unknown side length or area. Write a multiplication sentence for each tiled rectangle.
  - a. Area: 24 square centimeters.





c. Area: 15 square centimeters.





\_ × \_\_\_\_\_ = \_\_\_\_



COMMON CORE Lesson 5: Date: Form rectangles by tiling with unit squares to make arrays. 8/15/14



4.B.12

2. Ally makes a rectangle with 45 square inch tiles. She arranges the tiles in 5 equal rows. How many square inch tiles are in each row? Use words, pictures, and numbers to support your answer.

- 3. Leon makes a rectangle with 36 square centimeter tiles. There are 4 equal rows of tiles.
  - a. How many tiles are in each row? Use words, pictures, and numbers to support your answer.

b. Can Leon arrange all of his 36 square centimeter tiles into 6 equal rows? Use words, pictures, and numbers to support your answer.

c. Do the rectangles in Parts (a) and (b) have the same total area? Explain how you know.



Form rectangles by tiling with unit squares to make arrays. 8/15/14



Name

Date \_\_\_\_\_

1. Each represents a 1 cm square. Draw to find the number of rows and columns in each array. Match it to its completed array. Then, fill in the blanks to make a true equation to find each array's area.

















Lesson 6: Date: Draw rows and columns to determine the area of a rectangle given an incomplete array. 8/15/14

engage<sup>ny</sup> 4.B.22

2. Minh skip-counts by sixes to find the total square units in the rectangle below. She says there are 36 square units. Is she correct? Explain your answer.



3. The tub in Paige's bathroom covers the tile floor as shown below. How many square tiles are on the floor, including the tiles under the tub?



4. Frank sees a book on top of his chessboard. How many squares are covered by the book? Explain your answer.



COMMON CORE Lesson 6: Date: Draw rows and columns to determine the area of a rectangle given an incomplete array. 8/15/14



Date \_\_\_\_\_

1. Find the area of each rectangular array. Label the side lengths of the matching area model, and write a multiplication equation for each area model.





Lesson 7: Date: Interpret area models to form rectangular arrays. 8/15/14



2. Jillian arranges square pattern blocks into a 7 by 4 array. Draw Jillian's array on the the grid below. How many square units are in Jillian's rectangular array?

a.					

b. Label the side lengths of Jillian's array from Part (a) on the rectangle below. Then, write a multiplication sentence to represent the area of the rectangle.



3. Fiona draws a 24 square centimeter rectangle. Gregory draws a 24 square inch rectangle. Whose rectangle is larger in area? How do you know?



Interpret area models to form rectangular arrays. 8/15/14



4.B.36

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

1. Write a multiplication equation to find the area of each rectangle.



2. Write a multiplication equation and a division equation to find the unknown side length for each rectangle.



4.B.48

3. On the grid below, draw a rectangle that has an area of 32 square centimeters. Label the side lengths.

4. Patricia draws a rectangle that has side lengths of 4 centimeters and 9 centimeters. What is the area of the rectangle? Explain how you found your answer.

5. Charles draws a rectangle with a side length of 9 inches and an area of 27 square inches. What is the other side length? How do you know?



Find the area of a rectangle through multiplication of the side lengths. 8/15/14



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Name \_\_\_\_\_

Date \_\_\_\_\_

1. Use the grid to answer the questions below.

Image: Second				

- a. Draw a line to divide the grid into 2 equal rectangles. Shade in 1 of the rectangles that you created.
- b. Label the side lengths of each rectangle.
- c. Write an equation to show the total area of the 2 rectangles.



Analyze different rectangles and reason about their area. 8/26/14



- 2. Alexa cuts out the 2 equal rectangles from Problem 1(a) and puts the two shorter sides together.
  - a. Draw Alexa's new rectangle and label the side lengths below.

b. Find the total area of the new, longer rectangle.

c. Is the area of the new, longer rectangle equal to the total area in Problem 1(c)? Explain why or why not.



Analyze different rectangles and reason about their area. 8/26/14



Date \_\_\_\_\_

1. Label the side lengths of the shaded and unshaded rectangles. Then, find the total area of the large rectangle by adding the areas of the 2 smaller rectangles.

b.

2



- 9 × 8 = (5 + 4) × 8
  - = (5 × 8) + (4 × 8) = \_\_\_\_\_ + \_\_\_\_ = \_\_\_\_\_ square units















Lesson 10: Date: Apply the distributive property as a strategy to find the total area of a large rectangle by adding two products. 8/15/14



4.C.22

2. Finn imagines 1 more row of nine to find the total area of  $9 \times 9$  rectangle. Explain how this could help him solve  $9 \times 9$ .



3. Shade an area to break the 16 × 4 rectangle into 2 smaller rectangles. Then, find the sum of the areas of the 2 smaller rectangles to find the total area. Explain your thinking.





Lesson 10: Date: Apply the distributive property as a strategy to find the total area of a large rectangle by adding two products. 8/15/14



4.C.23
Date \_\_\_\_\_

1. The rectangles below have the same area. Move the parentheses to find the missing side lengths. Then, solve.



2. Does Problem 1 show all the possible whole number side lengths for a rectangle with an area of 36 square centimeters? How do you know?



Lesson 11:

Date:

Demonstrate the possible whole number side lengths of rectangles with areas of 24, 36, 48, or 72 square units using the associative property. 8/15/14



4.C.33

3. a. Find the area of the rectangle below.



b. Hilda says a 4 cm by 12 cm rectangle has the same area as the rectangle in Part (a). Place parentheses in the equation to find the related fact and solve. Is Hilda correct? Why or why not?



c. Use the expression 8 × 6 to find different side lengths for a rectangle that has the same area as the rectangle in Part (a). Show your equations using parentheses. Then, estimate to draw the rectangle and label the side lengths.



Lesson 11:

Date:

Demonstrate the possible whole number side lengths of rectangles with areas of 24, 36, 48, or 72 square units using the associative property. 8/15/14



Date \_\_\_\_\_

1. A square calendar has sides that are 9 inches long. What is the calendar's area?



is 1 square unit. Sienna uses the same square units to draw a 6 × 2 rectangle and says that it has the same area as the rectangle below. Is she correct? Explain why or why not.

3. The surface of an office desk has an area of 15 square feet. Its length is 5 feet. How wide is the office desk?



Solve word problems involving area. 8/15/14



4. A rectangular garden has a total area of 48 square yards. Draw and label two possible rectangular gardens with different side lengths that have the same area.

5. Lila makes the pattern below. Find and explain her pattern. Then, draw the *fifth* figure in her pattern.

		1		



Solve word problems involving area. 8/15/14



Date \_\_\_\_\_

1. Each of the following figures is made up of 2 rectangles. Find the total area of each figure.

Fig	ure	1																	
	Α								Figu	re 2					С				
	A																		
				В												_			
				D												D			
	F	gure	3																
		8					 				igur	e 4							
		E			F					•	igui	~ ~				н			
												G							
Figure	e 1:	Are	a of <i>i</i>	A + A	irea (	of B:	 	+	 	=			sq	unit	S				
Figure	e <b>2</b> :	Are	a of	C + A	rea (	of D:		+		=			sq	unit	S				
Figure	e 3:	Are	a of I	E + A	rea d	of F:	 	+	 	=.			_ sq	unit	5				
Figure	e <b>4</b> :	Are	a of	G + A	rea	of H:	 	+		=			so	l unit	ts				
MM RE	0	N		Lesso Date:		f	to for	decor m rect		rectar	igles o	r comp	leting	comp	osite	e	nc	Jag	qe

4.D.23

2. The figure shows a small rectangle cut out of a big rectangle. Find the area of the shaded figure.



3. The figure shows a small rectangle cut out of a big rectangle.



a. Label the missing measurements.



Lesson 13: Date: Find areas by decomposing into rectangles or completing composite figures to form rectangles. 8/12/14



4.D.24

Date \_\_\_\_\_

1. Find the area of each of the following figures. All figures are made up of rectangles.







Lesson 14: Date: Find areas by decomposing into rectangles or completing composite figures to form rectangles. 8/15/14



4.D.36

2. The figure below shows a small rectangle cut out of a big rectangle.



a. Label the side lengths of the unshaded region.

b. Find the area of the shaded region.



Lesson 14: Date: Find areas by decomposing into rectangles or completing composite figures to form rectangles. 8/15/14



Date \_\_\_\_\_

Use a ruler to measure the side lengths of each lettered room in centimeters. Then, find the area. Use the measurements below to match, and label the rooms with the correct areas.

Kitchen: 45 square centimeters	Living Room: 63 square centimeters
Porch: 34 square centimeters	Bedroom: 56 square centimeters
Bathroom: 24 square centimeters	Hallway: 12 square centimeters





8/12/14

Apply knowledge of area to determine areas of rooms in a given floor plan.

engage<sup>ny</sup> 4.D.48

Name

Date \_\_\_\_\_

Jeremy plans and designs his own dream playground on grid paper. His new playground will cover a total area of 72 square units. The chart shows how much space he gives for each piece of equipment, or area. Use the information in the chart to draw and label a possible way Jeremy can plan his playground.

Basketball court	10 square units				
Jungle gym	9 square units				
Slide	6 square units				
Soccer area	24 square units				



Lesson 16: Date:

8/15/14

Apply knowledge of area to determine areas of rooms in a given floor plan.



Date \_\_\_\_\_

Each

is 1 square unit. Do both rectangles have the same area? Explain how you know.



Lesson 1: Date: Understand area as an attribute of plane figures. 8/12/14



Name

Date \_\_\_\_\_

1. Each is a square unit. Find the area of the rectangle below. Then, draw a different rectangle with the same number of square units.

2. Zach creates a rectangle with an area of 6 square inches. Luke makes a rectangle with an area of 6 square centimeters. Do the two rectangles have the same area? Why or why not?



Decompose and recompose shapes to compare areas. 8/12/14



Name

Date \_\_\_\_\_

1. Each is 1 square unit. Write the area of Rectangle A. Then, draw another rectangle with the same area in the space provided.

\_\_\_\_\_

	Α								

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

2. Each is 1 square unit. Does this rectangle have the same area as Rectangle A? Explain.



Lesson 3: Date: Model tiling with centimeter and inch unit squares as a strategy to measure area. 8/15/14



Name	Date
Label the side lengths of each rectangle. Then, mat	ch the rectangle to its total area.
a.	12 square centimeters
b.	
	5 square inches
С.	
	6 square centimeters



Relate side lengths with the number of tiles on a side. 8/15/14



4.A.44

Date \_\_\_\_\_

Darren has a total of 28 square centimeter tiles. He arranges them into 7 equal rows. Draw Darren's rectangle. Label the side lengths, and write a multiplication sentence to find the total area.



Form rectangles by tiling with unit squares to make arrays. 8/15/14



Date \_\_\_\_\_

The tiled floor in Cayden's dining room has a rug on it as shown below. How many square tiles are on the floor, including the tiles under the rug?





Lesson 6: Date: Draw rows and columns to determine the area of a rectangle given an incomplete array. 8/15/14



Date \_\_\_\_\_

1. Label the side lengths of Rectangle A on the grid below. Use a straight edge to draw a grid of equal size squares within Rectangle A. Find the total area of Rectangle A.



2. Mark makes a rectangle with 36 square centimeter tiles. Gia makes a rectangle with 36 square inch tiles. Whose rectangle has a bigger area? Explain your answer.



Interpret area models to form rectangular arrays. 8/15/14



Date \_\_\_\_\_

1. Write a multiplication equation to find the area of the rectangle below.



2. Write a multiplication equation and a division equation to find the unknown side length for the rectangle below.





Lesson 8: Date: Find the area of a rectangle through multiplication of the side lengths. 8/15/14



3. Lamar pushes Rectangle A next to Rectangle B to make a bigger rectangle. What is the area of the bigger rectangle? How do you know?

Analyze different rectangles and reason about their area.

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Lesson 9:

8/26/14

Date:

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Name \_\_\_\_\_\_Lamar uses square tiles to make the 2 rectangles shown below.

1. Label the side lengths of the 2 rectangles.

2. Write equations to find the areas of the rectangles.

Area of Rectangle A: \_\_\_\_\_

Area of Rectangle B: \_\_\_\_\_





Date \_\_\_\_\_

4.C.10

engage<sup>ny</sup>

Date \_\_\_\_\_

Label the side lengths of the shaded and unshaded rectangles. Then, find the total area of the large rectangle by adding the areas of the 2 smaller rectangles.





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



Lesson 10: Date: Apply the distributive property as a strategy to find the total area of a large rectangle by adding two products. 8/15/14



4.C.21

Name	Dat	

1. Find the area of the rectangle.



2. The rectangle below has the same area as the rectangle in Problem 1. Move the parentheses to find the missing side lengths. Then, solve.





Lesson 11:

Date:

Demonstrate the possible whole number side lengths of rectangles with areas of 24, 36, 48, or 72 square units using the associative property. 8/15/14





Date \_\_\_\_\_

1. A painting has an area of 63 square inches. One side length is 9 inches. What is the other side length?

9 inches

Area = 63 square inches

2. Judy's mini dollhouse has one floor and measures 4 inches by 16 inches. What is the total area of the dollhouse?



Solve word problems involving area. 8/15/14


NYS COMMON CORE MATHEMATICS CURRICULUM

Name \_\_\_\_\_

Date \_\_\_\_\_

The following figure is made up of 2 rectangles. Find the total area of the figure.

		Α			
			В		

Area of A + Area of B: \_\_\_\_\_ + \_\_\_\_ = \_\_\_\_ sq units



Lesson 13: Date: Find areas by decomposing into rectangles or completing composite figures to form rectangles. 8/12/14



Name \_\_\_\_\_

Date \_\_\_\_\_

Mary draws an 8 cm by 6 cm rectangle on her grid paper. She shades a square with a side length of 4 cm inside her rectangle. What area of the rectangle is left unshaded?



Lesson 14: Date:

Find areas by decomposing into rectangles or completing composite figures to form rectangles. 8/15/14



Name \_\_\_\_\_

Date \_\_\_\_\_

Jack uses grid paper to create a floor plan of his room. Label the missing measurements, and find the area of the items listed below.

	Desk															
Desk																
													Table			e
											B	ed				
	Dresser															

Name	Equations	Total Area
a. Jack's Room		square units
b. Bed		square units
c. Table		square units
d. Dresser		square units
e. Desk		square units



Lesson 15: Date:

8/12/14

Apply knowledge of area to determine areas of rooms in a given floor plan.



Name \_\_\_\_\_

Date \_\_\_\_\_

Find the area of the shaded figure. Then, draw and label a rectangle with the same area.





Apply knowledge of area to determine areas of rooms in a given floor plan.

8/15/14



4 x 5 =	4 x 6 =	4 x 7 =	4 x 8 =
4 x 9 =	4 x 10 =	4 x 6 =	4 x 7 =
4 x 6 =	4 x 8 =	4 x 6 =	4 x 9 =
4 x 6 =	4 x 10 =	4 x 6 =	4 x 7 =
4 x 6 =	4 x 7 =	4 x 8 =	4 x 7 =
4 x 9 =	4 x 7 =	4 x 10 =	4 x 7 =
4 x 8 =	4 x 6 =	4 x 8 =	4 x 7 =
4 x 8 =	4 x 9 =	4 x 8 =	4 x 10 =
4 x 8 =	4 x 9 =	4 x 6 =	4 x 9 =
4 x 7 =	4 x 9 =	4 x 8 =	4 x 9 =
4 x 10 =	4 x 9 =	4 x 10 =	4 x 6 =
4 x 10 =	4 x 7 =	4 x 10 =	4 x 8 =
4 x 10 =	4 x 9 =	4 x 10 =	4 x 6 =
4 x 8 =	4 x 10 =	4 x 7 =	4 x 9 =
multiply by 4 (6–10)			
COMMON Lesson 2: Date:	Decompose and recompose sh 8/12/14	apes to compare areas.	engage <sup>ny</sup>

4.A.18

ltiply.			
6 x 1 =	6 x 2 =	6 x 3 =	6 x 4 =
6 x 5 =	6 x 6 =	6 x 7 =	6 x 8 =
6 x 9 =	6 x 10 =	6 x 5 =	6 x 6 =
6 x 5 =	6 x 7 =	6 x 5 =	6 x 8 =
6 x 5 =	6 x 9 =	6 x 5 =	6 x 10 =
6 x 6 =	6 x 5 =	6 x 6 =	6 x 7 =
6 x 6 =	6 x 8 =	6 x 6 =	6 x 9 =
6 x 6 =	6 x 7 =	6 x 6 =	6 x 7 =
6 x 8 =	6 x 7 =	6 x 9 =	6 x 7 =
6 x 8 =	6 x 6 =	6 x 8 =	6 x 7 =
6 x 8 =	6 x 9 =	6 x 9 =	6 x 6 =
6 x 9 =	6 x 7 =	6 x 9 =	6 x 8 =
6 x 9 =	6 x 8 =	6 x 6 =	6 x 9 =
6 x 7 =	6 x 9 =	6 x 6 =	6 x 8 =
6 x 9 =	6 x 7 =	6 x 6 =	6 x 8 =

Multiply.

multiply by 6 (6–10)

COMMON CORE Lesson 8: Date: Find the area of a rectangle through multiplication of the side lengths. 8/15/14

engage<sup>ny</sup> 4.B.44

waterpry.			
7 x 1 =	7 x 2 =	7 x 3 =	7 x 4 =
7 x 5 =	7 x 6 =	7 x 7 =	7 x 8 =
7 x 9 =	7 x 10 =	7 x 5 =	7 x 6 =
7 x 5 =	7 x 7 =	7 x 5 =	7 x 8 =
7 x 5 =	7 x 9 =	7 x 5 =	7 x 10 =
7 x 6 =	7 x 5 =	7 x 6 =	7 x 7 =
7 x 6 =	7 x 8 =	7 x 6 =	7 x 9 =
7 x 6 =	7 x 7 =	7 x 6 =	7 x 7 =
7 x 8 =	7 x 7 =	7 x 9 =	7 x 7 =
7 x 8 =	7 x 6 =	7 x 8 =	7 x 7 =
7 x 8 =	7 x 9 =	7 x 9 =	7 x 6 =
7 x 9 =	7 x 7 =	7 x 9 =	7 x 8 =
7 x 9 =	7 x 8 =	7 x 6 =	7 x 9 =
7 x 7 =	7 x 9 =	7 x 6 =	7 x 8 =
7 x 9 =	7 x 7 =	7 x 6 =	7 x 8 =

Multiply.

multiply by 7 (6–10)



Solve word problems involving area. 8/15/14



Μι	ıltip	oly.															
8	x	1	=		8	x	2	=	 8	x	3	=	 8	x	4	=	
8	x	5	=		8	x	6	=	 8	x	7	=	 8	x	8	=	
8	x	9	=		8	x	10	=	 8	x	5	=	 8	x	6	=	
8	x	5	=		8	x	7	=	 8	x	5	=	 8	x	8	=	
8	x	5	=		8	x	9	=	 8	x	5	=	 8	x	10	=	
8	x	6	=		8	x	5	=	 8	x	6	=	 8	x	7	=	
8	x	6	=		8	x	8	=	 8	x	6	=	 8	x	9	=	
8	x	6	=		8	x	7	=	 8	x	6	=	 8	x	7	=	
8	x	8	=		8	x	7	=	 8	x	9	=	 8	x	7	=	
8	x	8	=		8	x	6	=	 8	x	8	=	 8	x	7	=	
8	x	8	=		8	x	9	=	 8	x	9	=	 8	x	6	=	
8	x	9	=		8	x	7	=	 8	x	9	=	 8	x	8	=	
8	x	9	=		8	x	8	=	 8	x	6	=	 8	x	9	=	
8	x	7	=		8	x	9	=	 8	x	6	=	 8	x	8	=	
8	x	9	=		8	x	7	=	 8	x	6	=	 8	x	8	=	
mul	tiply	y by	/ 8	(6–10)													

COMMON CORE

figures to fo 8/15/14

Lesson 14:

Find areas by decomposing into rectangles or completing composite figures to form rectangles.

engage<sup>ny</sup>

Multiply.			
9 x 1 =	9 x 2 =	9 x 3 =	9 x 4 =
9 x 5 =	9 x 1 =	9 x 2 =	9 x 1 =
9 x 3 =	9 x 1 =	9 x 4 =	9 x 1 =
9 x 5 =	9 x 1 =	9 x 2 =	9 x 3 =
9 x 2 =	9 x 4 =	9 x 2 =	9 x 5 =
9 x 2 =	9 x 1 =	9 x 2 =	9 x 3 =
9 x 1 =	9 x 3 =	9 x 2 =	9 x 3 =
9 x 4 =	9 x 3 =	9 x 5 =	9 x 3 =
9 x 4 =	9 x 1 =	9 x 4 =	9 x 2 =
9 x 4 =	9 x 3 =	9 x 4 =	9 x 5 =
9 x 4 =	9 x 5 =	9 x 1 =	9 x 5 =
9 x 2 =	9 x 5 =	9 x 3 =	9 x 5 =
9 x 4 =	9 x 2 =	9 x 4 =	9 x 3 =
9 x 5 =	9 x 3 =	9 x 2 =	9 x 4 =
9 x 3 =	9 x 5 =	9 x 2 =	9 x 4 =
multiply by 9 (1–5)			



Lesson 15: Date:

Apply knowledge of area to determine areas of rooms in a given floor

plan.

8/12/14

engage<sup>ny</sup>

Multiply.			
9 x 1 =	9 x 2 =	9 x 3 =	9 x 4 =
9 x 5 =	9 x 6 =	9 x 7 =	9 x 8 =
9 x 9 =	9 x 10 =	9 x 5 =	9 x 6 =
9 x 5 =	9 x 7 =	9 x 5 =	9 x 8 =
9 x 5 =	9 x 9 =	9 x 5 =	9 x 10 =
9 x 6 =	9 x 5 =	9 x 6 =	9 x 7 =
9 x 6 =	9 x 8 =	9 x 6 =	9 x 9 =
9 x 6 =	9 x 7 =	9 x 6 =	9 x 7 =
9 x 8 =	9 x 7 =	9 x 9 =	9 x 7 =
9 x 8 =	9 x 6 =	9 x 8 =	9 x 7 =
9 x 8 =	9 x 9 =	9 x 9 =	9 x 6 =
9 x 9 =	9 x 7 =	9 x 9 =	9 x 8 =
9 x 9 =	9 x 8 =	9 x 6 =	9 x 9 =
9 x 7 =	9 x 9 =	9 x 6 =	9 x 8 =
9 x 9 =	9 x 7 =	9 x 6 =	9 x 8 =

multiply by 9 (6-10)



Lesson 16: Date:

Apply knowledge of area to determine areas of rooms in a given floor

plan.

8/15/14

engage<sup>ny</sup>