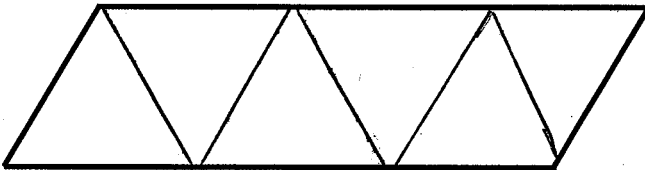


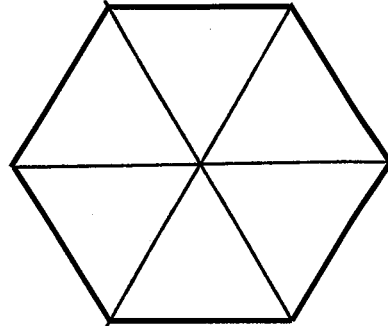
Name _____

Date _____

1. Use green 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.

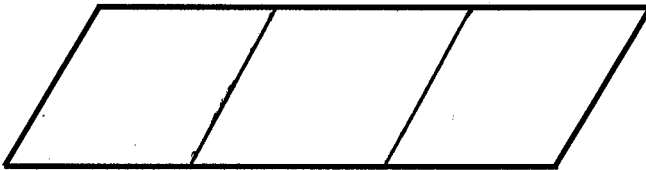


Shape A: 6 triangles

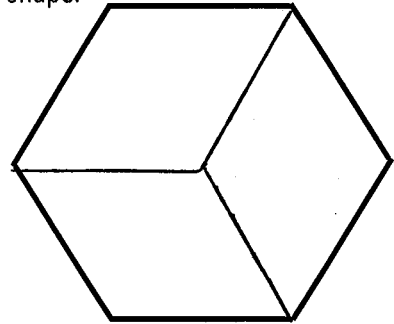


Shape B: 6 triangles

2. Use blue 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.

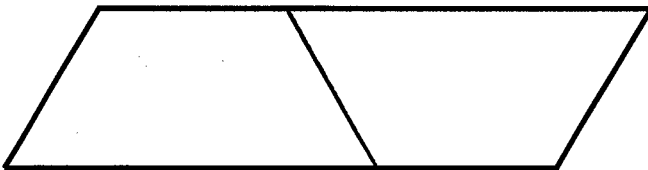


Shape A: 3 rhombuses

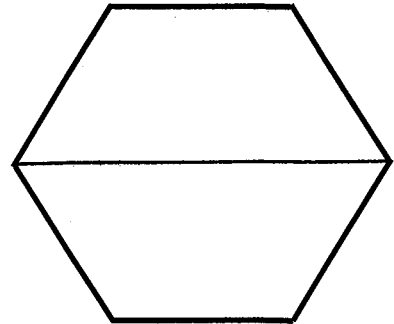


Shape B: 3 rhombuses

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



Shape A: 2 trapezoids

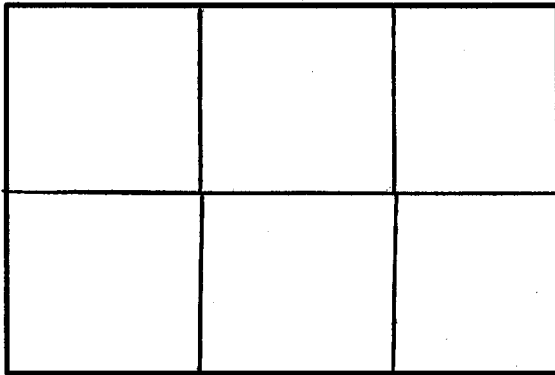


Shape B: 2 trapezoids

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

As the size of the pattern block gets bigger, the number of pattern blocks it takes to cover the same shape gets smaller.

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



6 squares


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

No, you can't use the red trapezoid pattern blocks to measure the area of this rectangle, because there are gaps between the trapezoids. When you measure area, you can't have gaps.

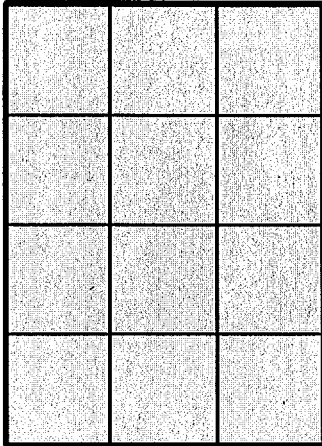


Name _____

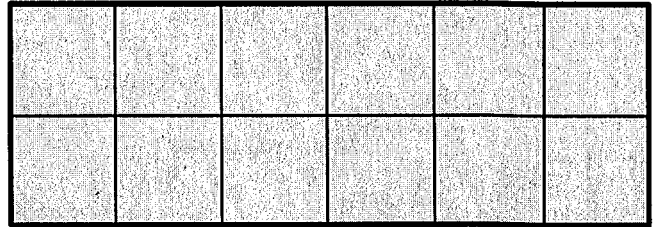
Date _____

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

a.



b.



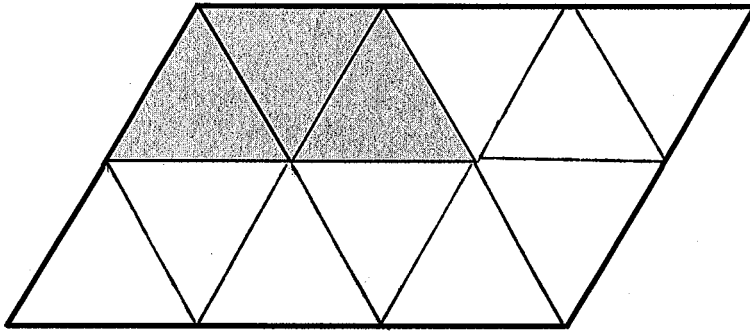
Yes, rectangle a and rectangle b do have the same area. Rectangle a has an area of 12 square units. Rectangle b also has an area of 12 square units.

Name _____

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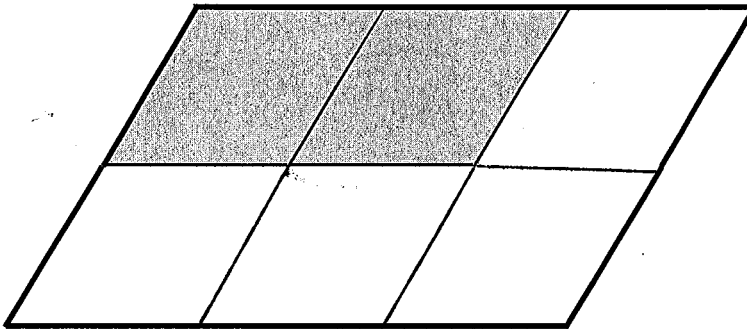
1. Magnus covers the same shape with triangles, rhombuses, and trapezoids

a. How many triangles will it take to cover the shape?



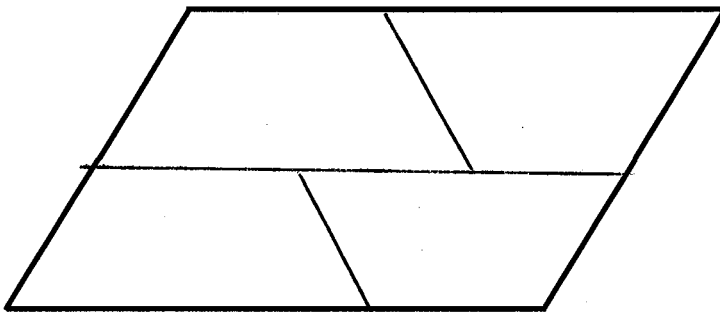
12 triangles

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



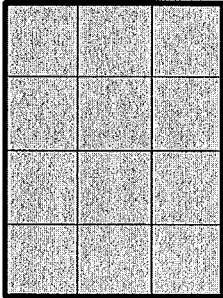
6 rhombuses

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



4 trapezoids


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

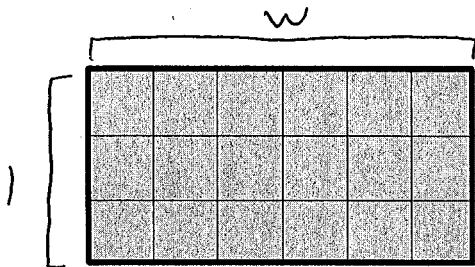


12 squares

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

The area is 12 square units. I multiplied 4 squares along the left side times 3 squares along the top to get $4 \times 3 = 12$. (Also could add all the squares inside the rectangle)

3. Each  is 1 square unit. Which rectangle has the biggest area? How do you know?

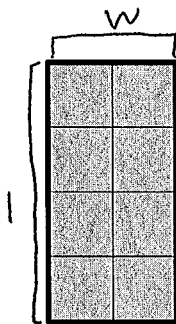


Rectangle A

$$A = 1 \times w$$

$$A = 3 \times 6$$

$$A = 18 \text{ sq. un.}$$

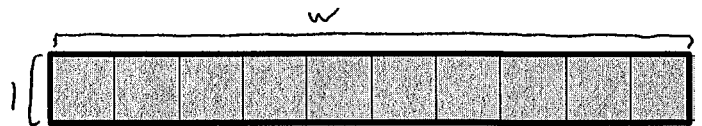


Rectangle B

$$A = 1 \times w$$

$$A = 4 \times 2$$

$$A = 8 \text{ sq. un.}$$



Rectangle C

$$A = 1 \times w$$

$$A = 1 \times 10$$

$$A = 10 \text{ sq. un.}$$

Rectangle A has the largest area because 18 sq. un. is larger than 8 sq. un. and 10 sq. un.

Multiply.

$4 \times 1 = 4$ $4 \times 2 = 8$ $4 \times 3 = 12$ $4 \times 4 = 16$

$4 \times 5 = 20$ $4 \times 6 = 24$ $4 \times 7 = 28$ $4 \times 8 = 32$

$4 \times 9 = 36$ $4 \times 10 = 40$ $4 \times 5 = 20$ $4 \times 6 = 24$

$4 \times 5 = 20$ $4 \times 7 = 28$ $4 \times 5 = 20$ $4 \times 8 = 32$

$4 \times 5 = 20$ $4 \times 9 = 36$ $4 \times 5 = 20$ $4 \times 10 = 40$

$4 \times 6 = 24$ $4 \times 5 = 20$ $4 \times 6 = 24$ $4 \times 7 = 28$

$4 \times 6 = 24$ $4 \times 8 = 32$ $4 \times 6 = 24$ $4 \times 9 = 36$

$4 \times 6 = 24$ $4 \times 7 = 28$ $4 \times 6 = 24$ $4 \times 7 = 28$

$4 \times 8 = 32$ $4 \times 7 = 28$ $4 \times 9 = 36$ $4 \times 7 = 28$

$4 \times 8 = 32$ $4 \times 6 = 24$ $4 \times 8 = 32$ $4 \times 7 = 28$

$4 \times 8 = 32$ $4 \times 9 = 36$ $4 \times 9 = 36$ $4 \times 6 = 24$

$4 \times 9 = 36$ $4 \times 7 = 28$ $4 \times 9 = 36$ $4 \times 8 = 32$

$4 \times 9 = 36$ $4 \times 8 = 32$ $4 \times 6 = 24$ $4 \times 9 = 36$

$4 \times 7 = 28$ $4 \times 9 = 36$ $4 \times 6 = 24$ $4 \times 8 = 32$

$4 \times 9 = 36$ $4 \times 7 = 28$ $4 \times 6 = 24$ $4 \times 8 = 32$

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COMMON CORE

Lesson 2:
Date:

Decompose and recompose shapes to compare areas.
9/30/13


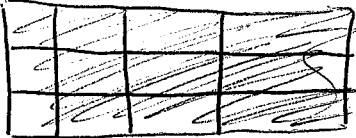
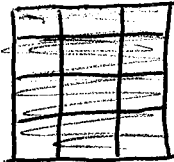
engage^{ny}

4.A.18


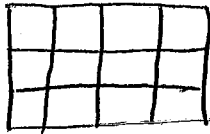
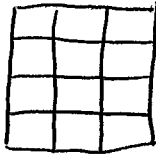
Name _____

Date _____

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

	Drawing	Area
Rectangle A		12 sq. in
Rectangle B		12 sq. in
Rectangle C		12 sq. in

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

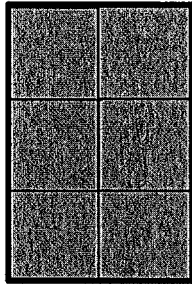
	Drawing	Area
Rectangle A		12 sq. cm
Rectangle B		12 sq. cm
Rectangle C		12 sq. cm

COMMON CORE STATE STANDARDS for MATHEMATICS

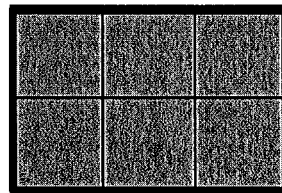
3. Compare the areas of the rectangles you made with Paper Strip 1 and Paper Strip 2. What changed? Why did it change?

The units changed because Strip 1 is made of square inches but Strip 2 is made of square centimeters. They both have 12 squares, but the squares are different sizes

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



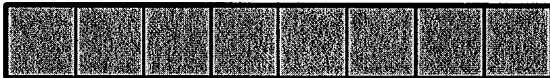
Shape A



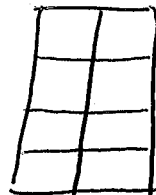
Shape B

Yes, they have the same area because I counted 6 squares in both Shape A and Shape B.


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

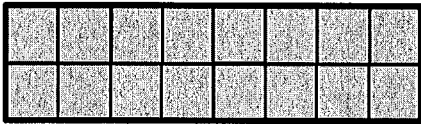


8 square units

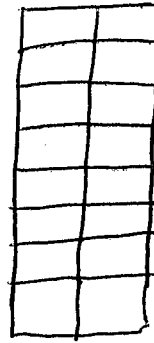


Name _____ Date _____

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.



16 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?

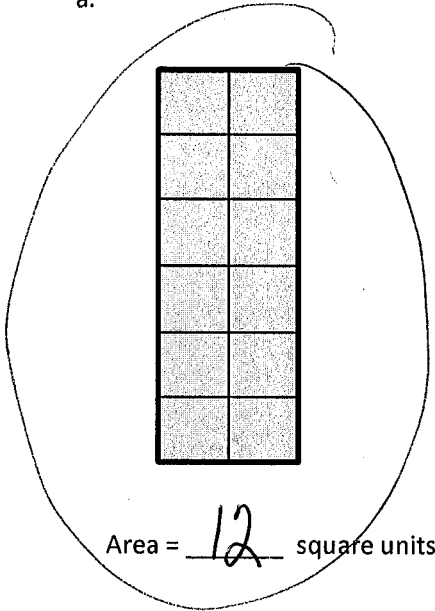
No, they both have 6 squares but the squares are different sizes because one is in square inches and the other is square centimeters.

Name _____

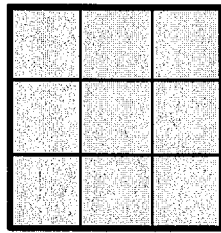
Date _____

1. Each  is a square unit. Count to find the area of each rectangle. Then circle all the rectangles with an area of 12 square units.

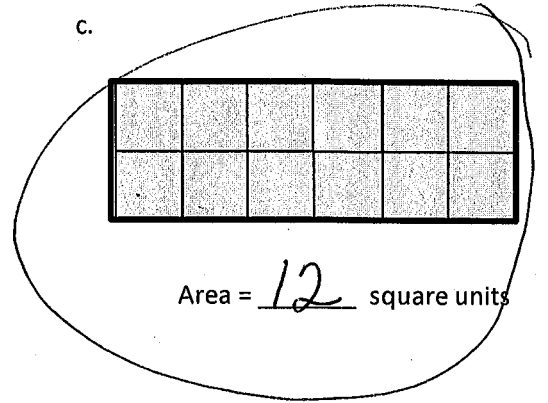
a.



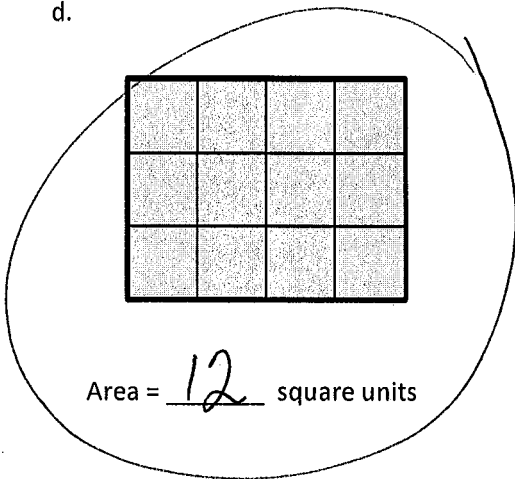
b.



c.



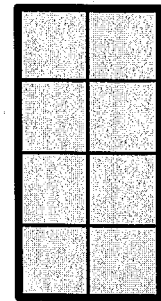
d.



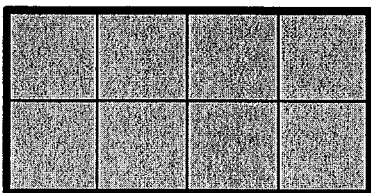
e.




f.

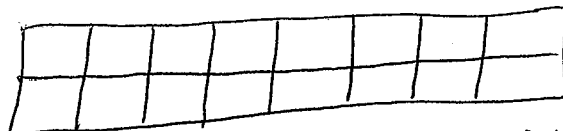
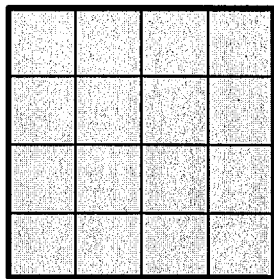


2. Colin uses square inch pieces to create these rectangles. Do they have the same area? Explain.



no they do not because the first one is 8 square inches and the second is 6 square inches.

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.




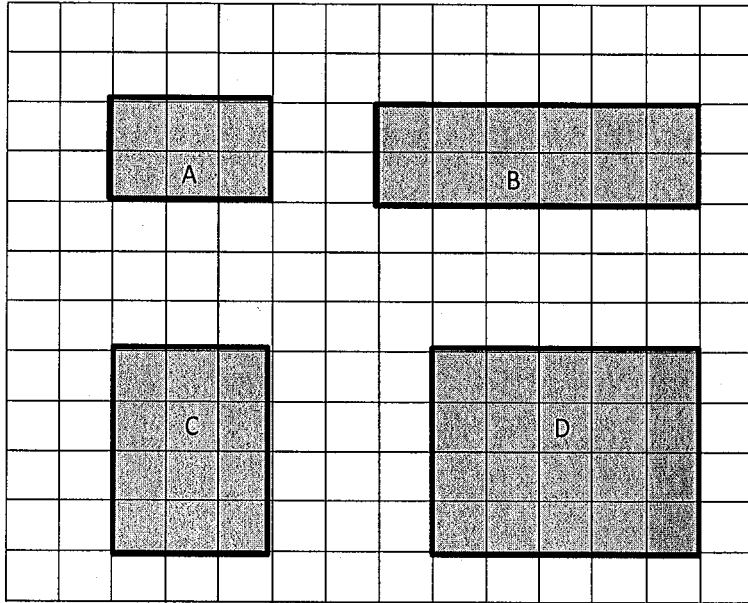
16 square units

16 square units

Name _____

Date _____

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




A: 6 square units

B: 12 square units

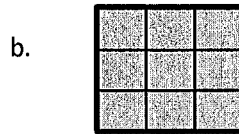
C: 12 square units

D: 20 square units

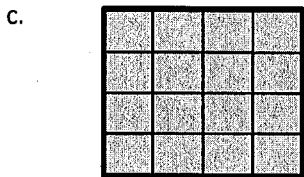
2. Each  is 1 square unit. What is the area of each of the following rectangles?



6 sq. un.



9 sq. un.



16 sq. un.



12 sq. un.

3.

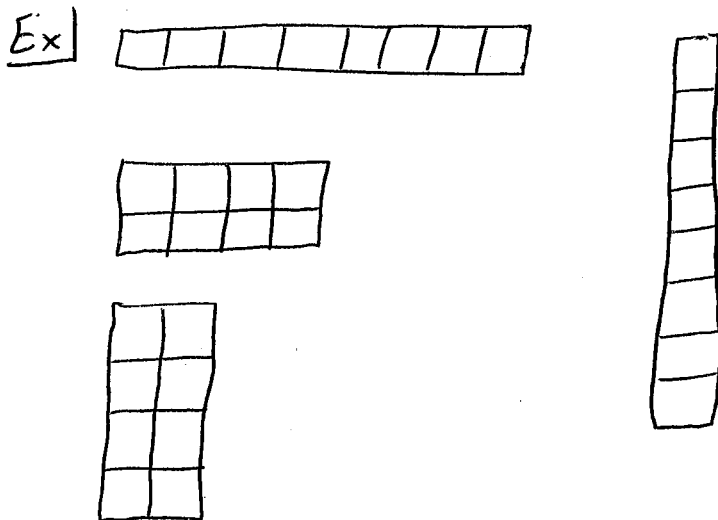
- a. How would the rectangles in Problem 1 be different if they were composed of square inches?

The shapes in problem 1 would be bigger if they were made of square inches. The number of squares would stay the same, but the size of the squares would change.

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


do on sq. inch and sq. cm paper and compare.
(paper is provided with lesson 3 worksheets)

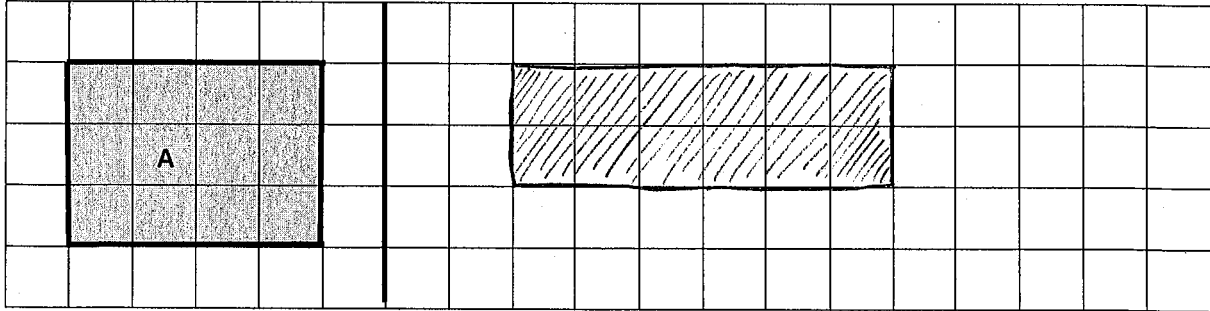
4. Use a separate piece of square-centimeter grid paper. Draw four different rectangles that each has an area of 8 square centimeters.



Name _____

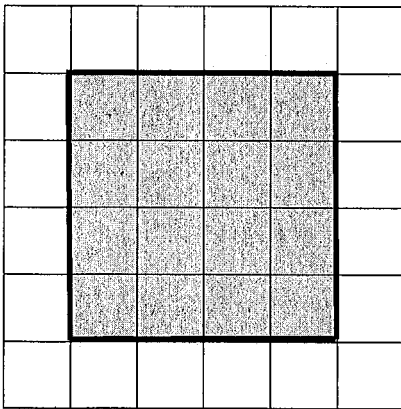
Date _____

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



Area = 12 square units

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



The rectangle in question 2 does not have the same area as the rectangle in question 1. In question 1, the area is 12 sq. un. In question 2, the area is 16 sq. un.

COMMON CORE STATE STANDARDS for MATHEMATICS



Lesson 3:

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

Date:


9/30/13

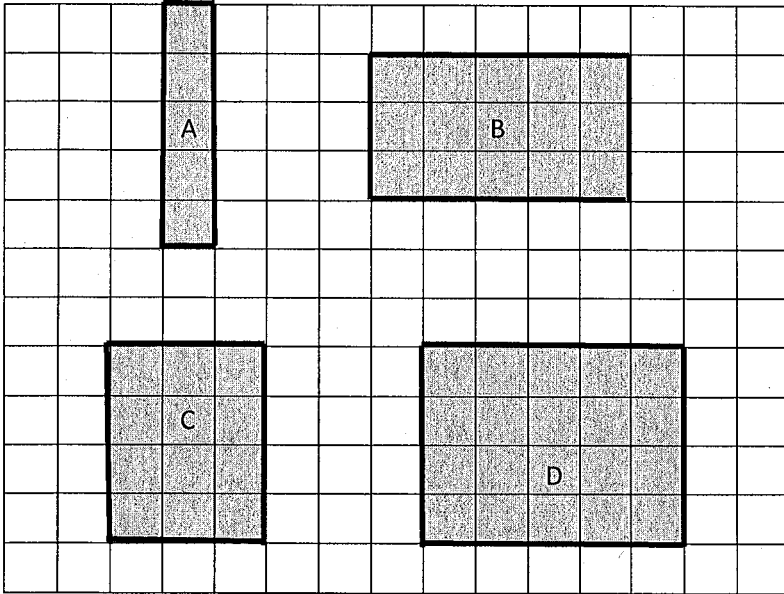
engage^{ny}

4.A.31

Name _____

Date _____

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




A: 5 square units

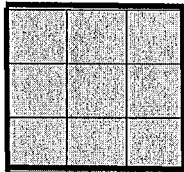
B: 15 square units

C: 12 square units

D: 20 square units

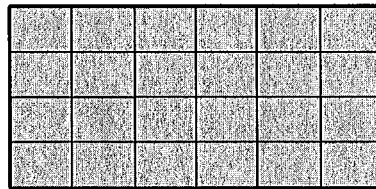
2. Each  is 1 square unit. What is the area of each of the following rectangles?

a.



9 sq. un.

b.



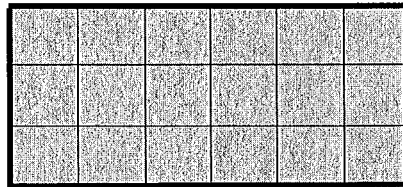
24 sq. un.

c.




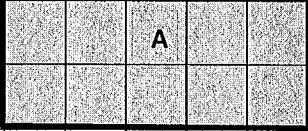
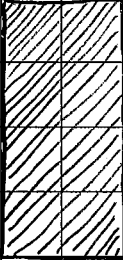
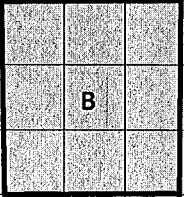

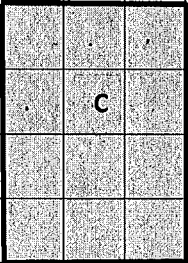

8 sq. un.

d.

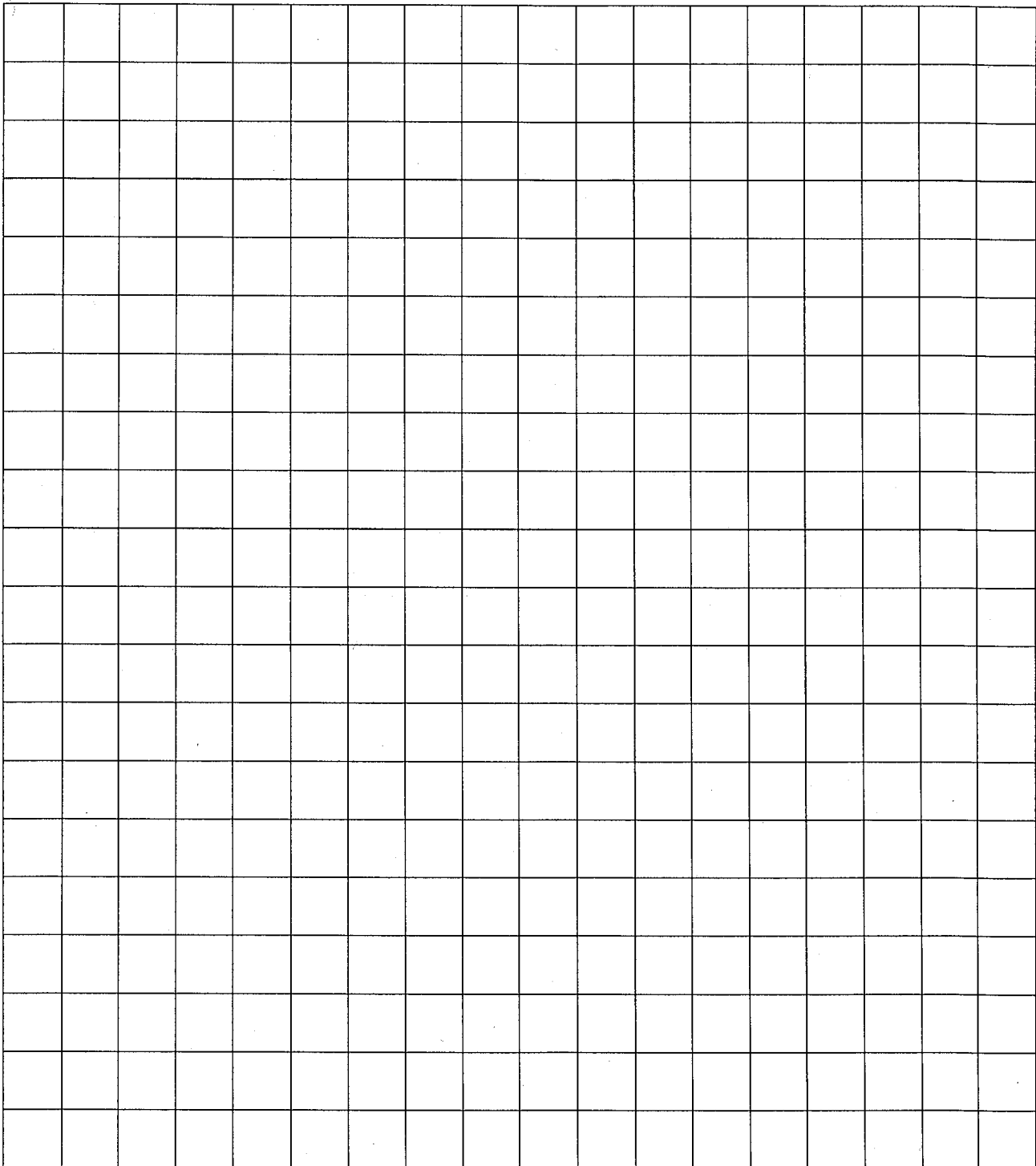


18 sq. un.

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

	
Area = <u>10</u> square units	
	
Area = <u>9</u> square units	
	
Area = <u>12</u> square units	

COMMON CORE CURRICULUM FOR MATHEMATICS GRADES 3-5



COMMON CORE STATE STANDARDS for MATHEMATICS



Lesson 3:

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

Date:

9/30/13



4.A.34





COMMON CORE

Lesson 3:

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

Date:

9/30/13

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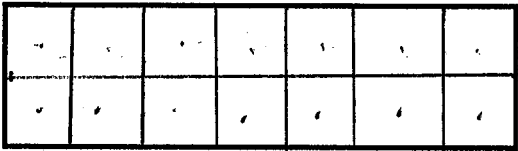
4.A.35



Name _____

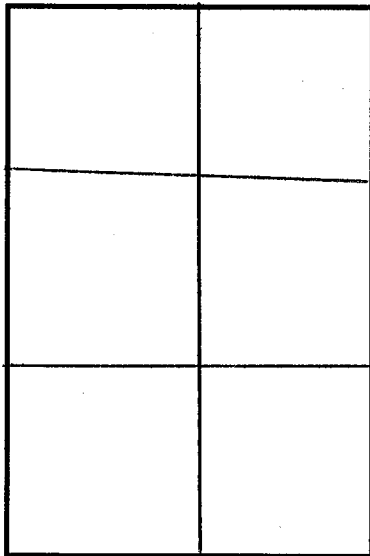
Date _____

- 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: 14 Square centimeters

- 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: 6 square inches


- 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.

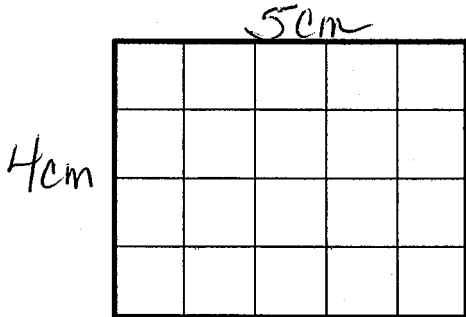


3cm

4cm

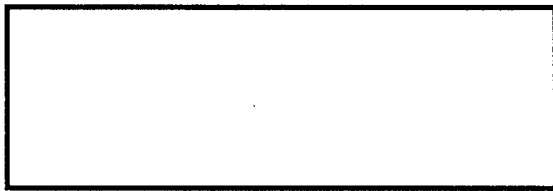
Total area: 12 Square Centimeters

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.



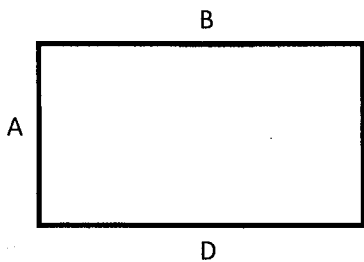
They are both correct because I counted the tiles across the top and there are 5 tiles, which means the side length is 5cm & I counted the tiles along the side and there are 4 tiles, which equals 4cm.

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



Square inch tiles work best because I can fit 3 tiles in the rectangle. When I tried to use square cm tiles, they didn't completely fill the rectangle.

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



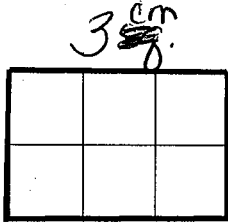
If you know side length B you also know side length D and if you know side length A you also know side length C because the opposite sides of a rectangle are equal.

COMMON CORE STATE STANDARDS for MATHEMATICS

Name _____

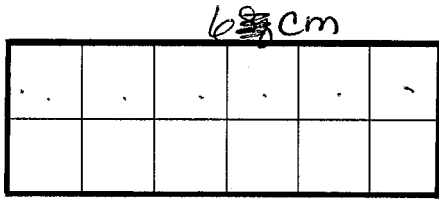
Date _____

Label the side lengths of each rectangle. Then match the rectangle to its total area.



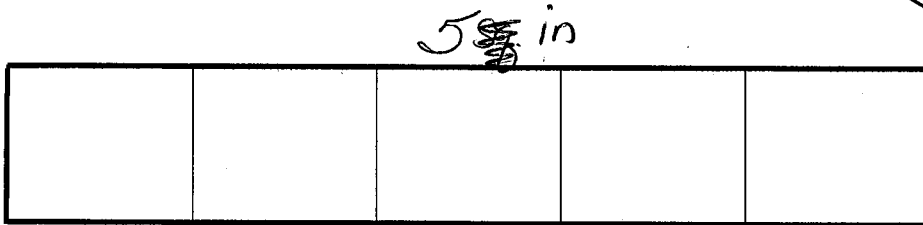
2 ~~cm~~

12 sq cm



2 ~~cm~~

5 sq in

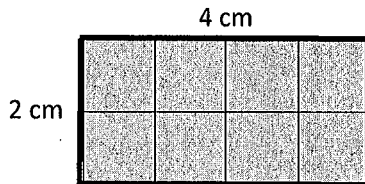


6 sq cm

Name _____

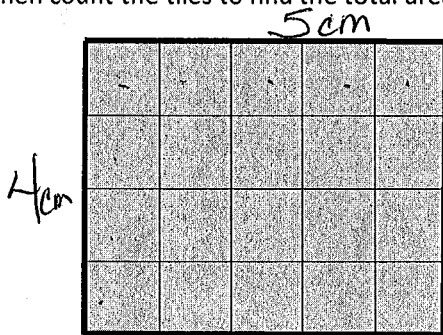
Date _____

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



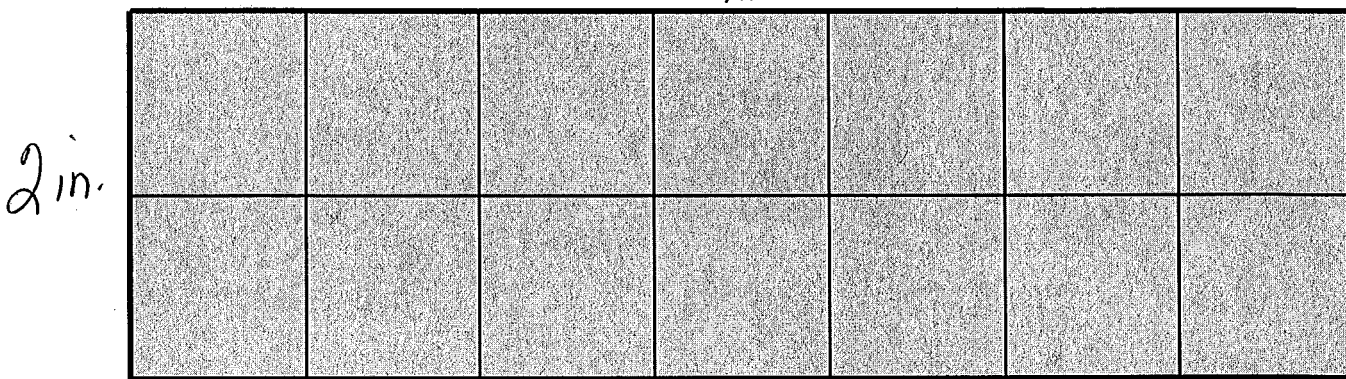
Total area: 8 sq. cm

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.



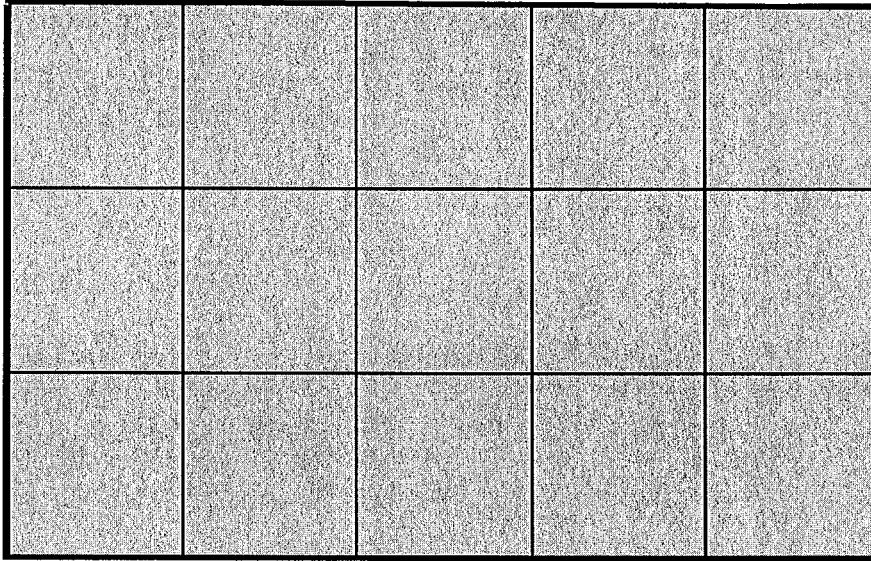
Total area: 20 sq. cm

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



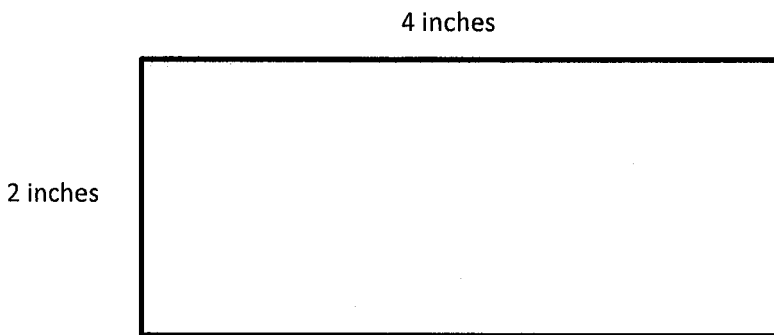
Total area: 14 sq. inches

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.



They are both correct because there are 5 tiles across the top which means the length is 5 inches and there are 3 tiles along the side which equals 3 inches.

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



opposite sides of a rectangle are equal.

2 inches

4 inches