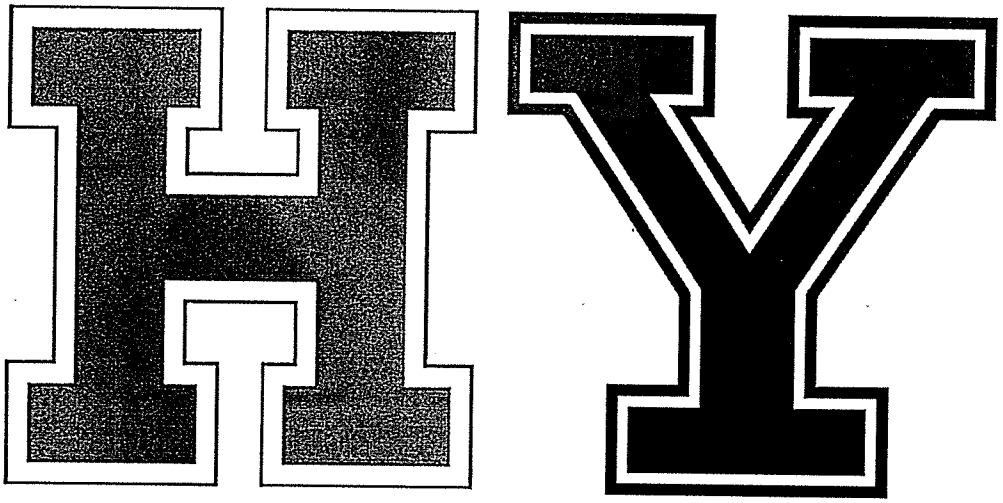
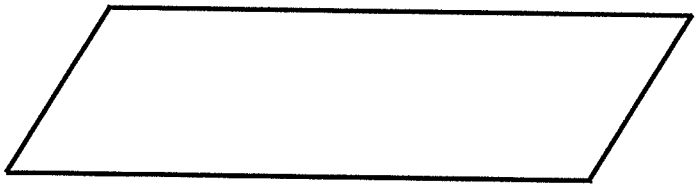
3rd Grade Problem Set Exit Ticket



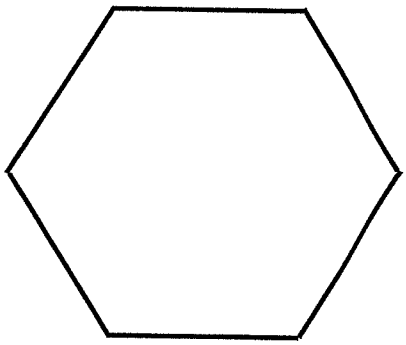
Module 4

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.

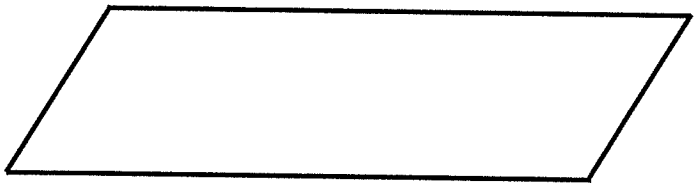


Shape A: _____ triangles

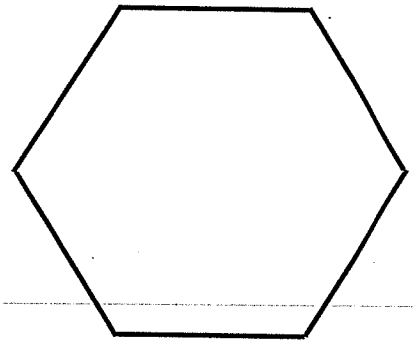


Shape B: _____ triangles

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.

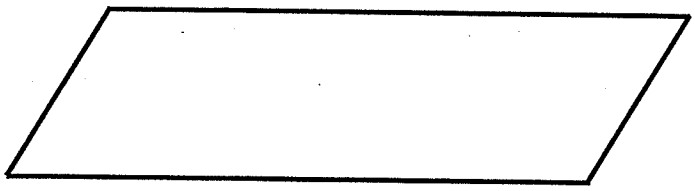


Shape A: _____ rhombuses

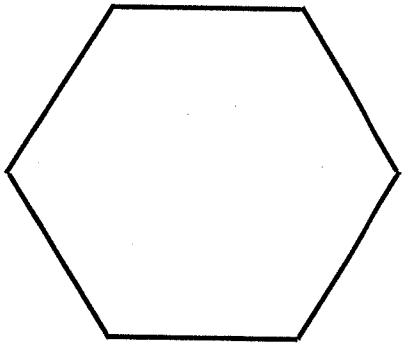


Shape B: _____ rhombuses

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.



Shape A: _____ trapezoids



Shape B: _____ trapezoids

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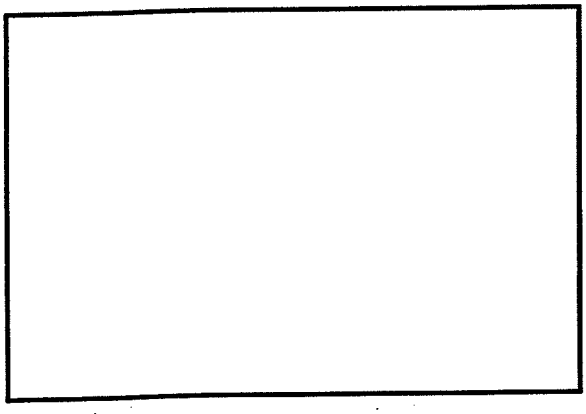
4. How is the number of pattern blocks needed to cover the same shape related to the size of the pattern blocks?

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.

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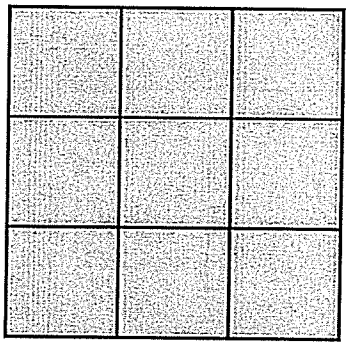
Lesson 1 G3 M4	EXIT TICKET

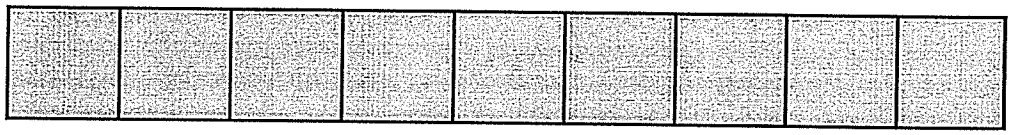
Name:_____ Date:_____

Complete: ☐ Class:_____

1. Each ▢ is 1 square unit.

Do both rectangles have the same area? Explain how you know.





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		
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		

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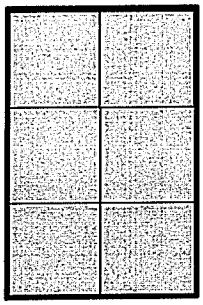
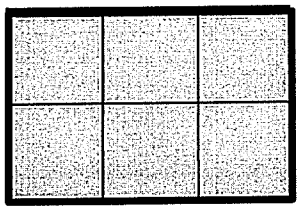
3. Compare the areas of the rectangles you made with Paper Strip 1 and Paper Strip 2. What changed? Why did it change?

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



Shape A



Shape B

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

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Lesson 2
G:3 M:4

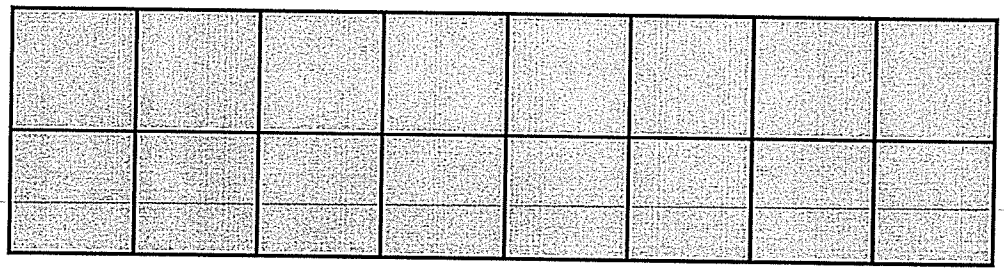
EXIT TICKET

Name:_____ Date:_____

Complete: ☐ Class:_____

1. Each ▢ is 1 square unit.

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

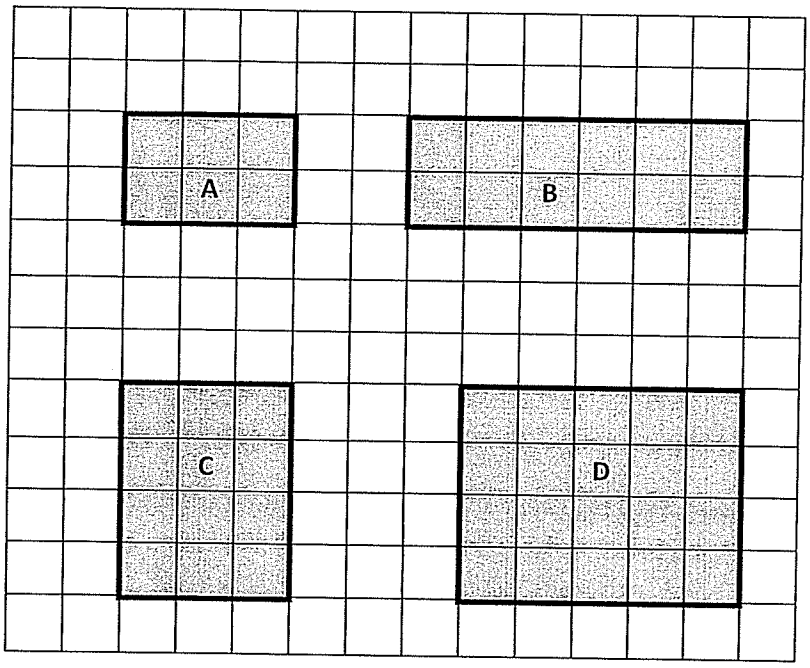


2. Zach creates a rectangle with an area of 6 square inches. Luke makes a rectangle with an area of 6 square centimeters.

Do the two rectangles have the same area? Why or why not?

Name _____ Date _____

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



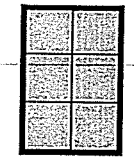
A: _____ square units

B: _____

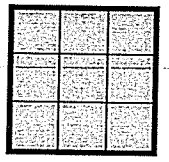
C: _____

D: _____

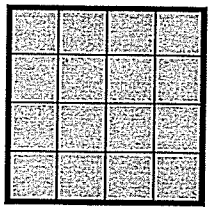
2. Each ▢ is 1 square unit. What is the area of each of the following rectangles?

a. 

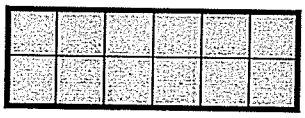
_____

b. 

_____

c. 

_____

d. 

_____

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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.

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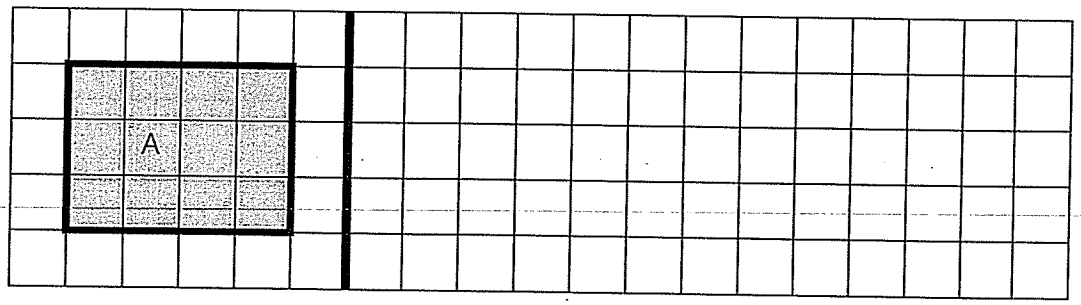
Lesson 3 G3 M4 EXIT TICKET

Name:_____ Date:_____

Complete: ☐ Class:_____

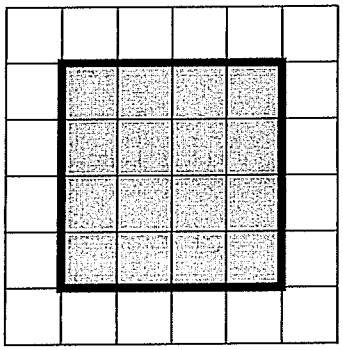
1. Each ☐ is 1 square unit. Write the area of Rectangle A.

Then, draw a different rectangle with the same area in the space provided.



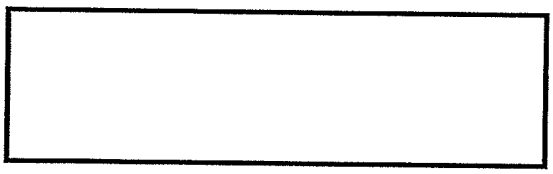
Area = _____

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



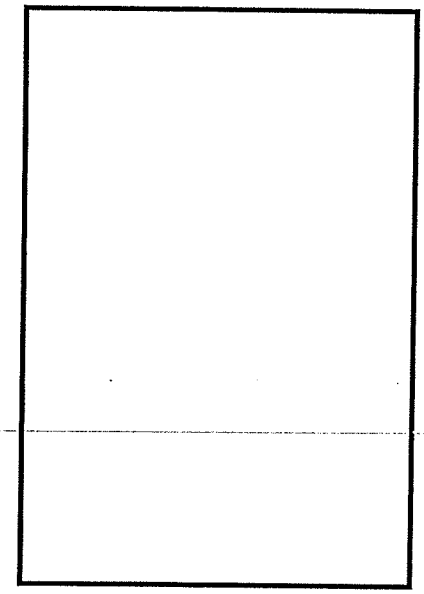
Name _____ Date _____

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.



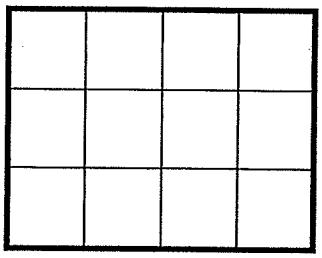
Total area: _____

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: _____

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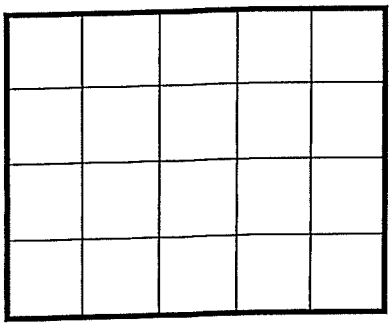
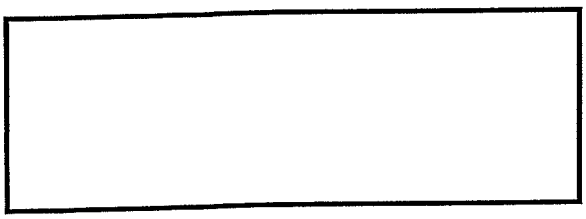
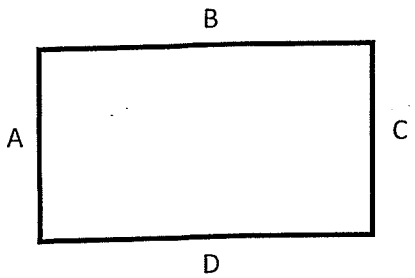
4. Each ☐ is 1 square centimeter. Saffron says that the side length of the rectangle below is 4 centimeters. Kevin says the side length is 5 centimeters. Who is correct? Explain how you know.



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?



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Lesson 4
G:3 M:4

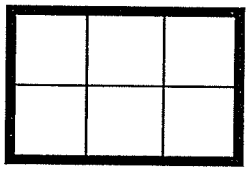
EXIT TICKET

Name:_____ Date:_____

Complete: ☐ Class:_____

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

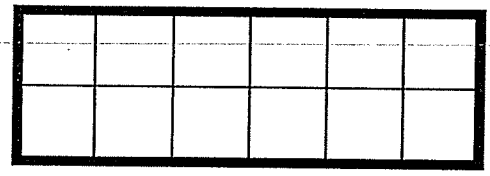
a.



12 sq cm

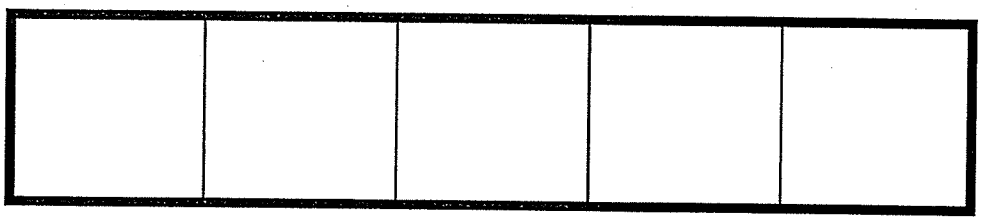
b.

5 sq in



6 sq cm

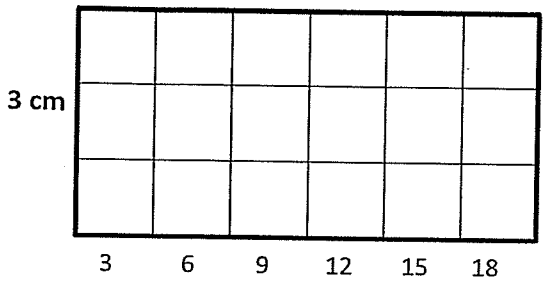
c.



Name _____ Date _____

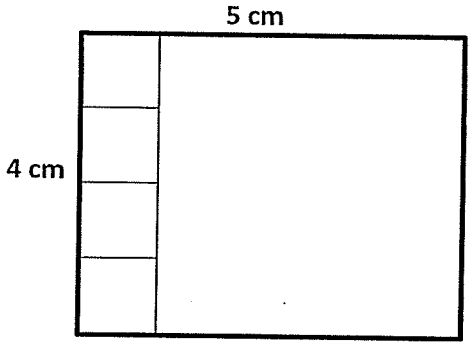
1. Use the centimeter side of a ruler to draw in the tiles, and then skip-count to find the unknown area. Write a multiplication sentence for each tiled rectangle.

a. Area: **18** square centimeters.



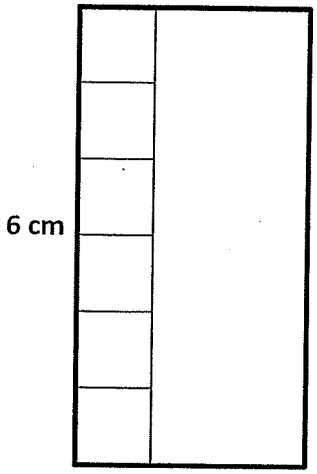
3 × _____ = 18

b. Area: _____ square centimeters.



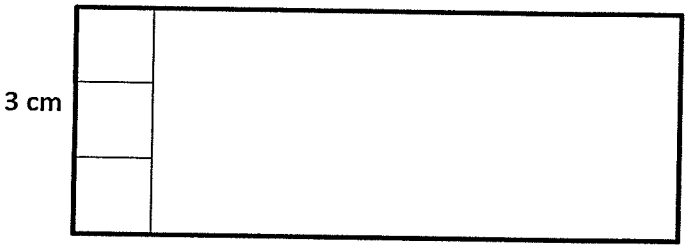
_____ × _____ = _____

c. Area: **18** square centimeters.



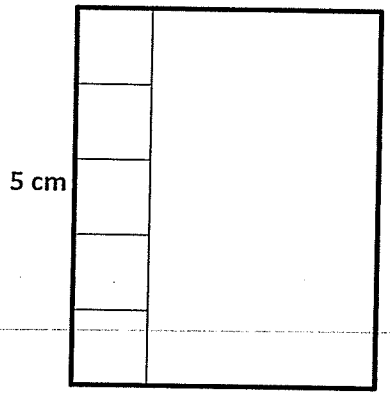
_____ × _____ = _____

d. Area: **24** square centimeters.



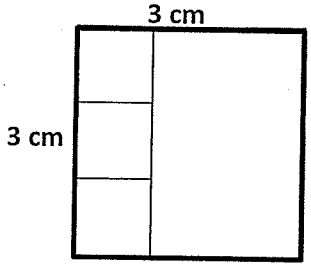
_____ × _____ = _____

e. Area: **20** square centimeters.



_____ × _____ = _____

f. Area: _____ square centimeters.



_____ × _____ = _____

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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.

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Lesson 5 G:3 M:4	EXIT TICKET

Name:_____ Date:_____

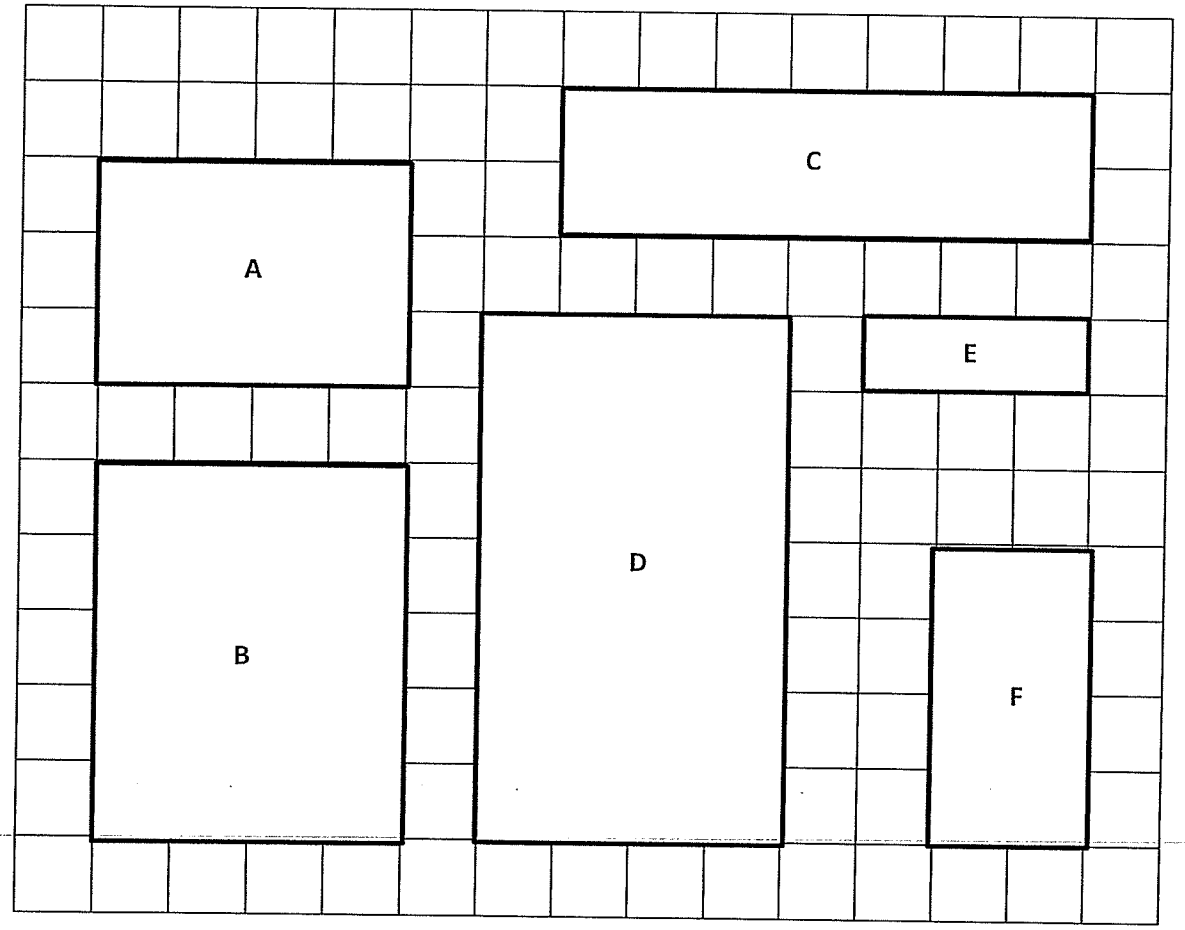
Complete: ☐ Class:_____

1. 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.

SHOW YOUR WORK

Name _____ Date _____

1. 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.



a. Area A:

____ units × ____ units = ____ square units

b. Area B:

____ units × ____ units = ____ square units

c. Area C:

____ units × ____ units = ____ square units

d. Area D:

____ units × ____ units = ____ square units

e. Area E:

____ unit × ____ units = ____ square units

f. Area F:

____ units × ____ units = ____ square units

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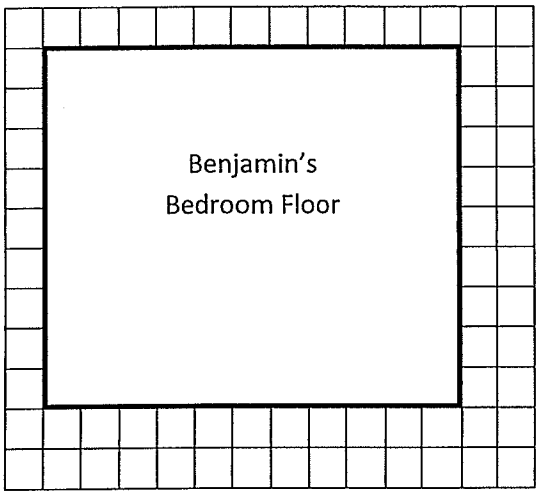
2. The area of Benjamin's bedroom floor is shown on the grid to the right. Each ☐ represents 1 square foot. How many total square feet is Benjamin's floor?

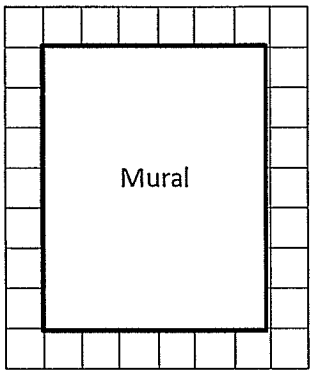
   a. Label the side lengths.

   b. Use a straight edge to draw a grid of equal size squares within the rectangle.

   c. Find the total number of squares.



3. 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 ☐ represents 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?

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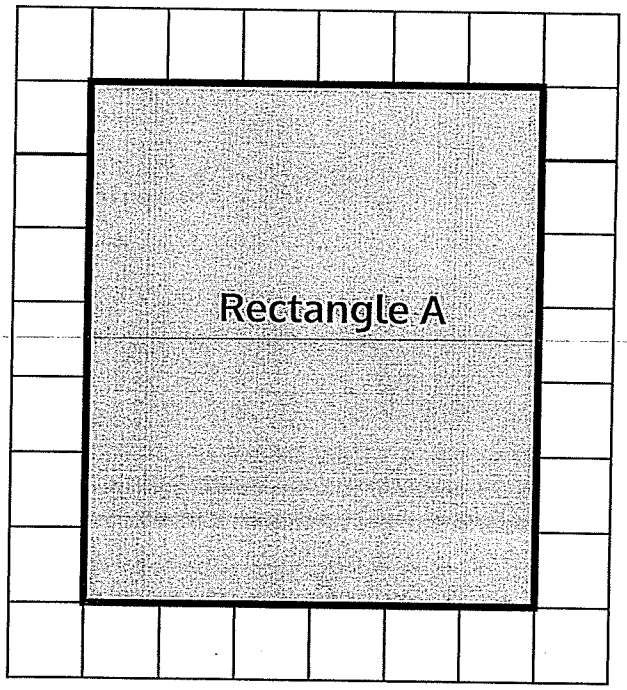
Lesson 7
G:3 M:4

EXIT TICKET

Name:_____ Date:_____

Complete: ☐ Class:_____

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.



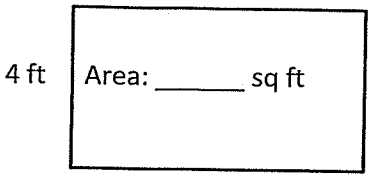
Area: _____ square units

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.

Name _____ Date _____

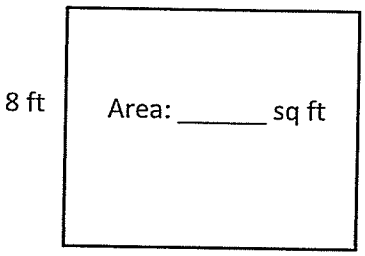
1. Write a multiplication equation to find the area of each rectangle.

a.



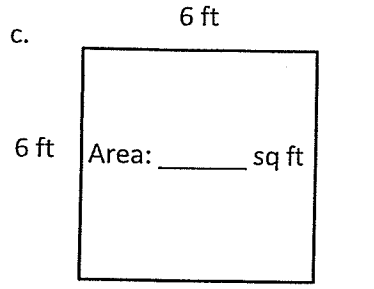
_____ × _____ = _____

b.



_____ × _____ = _____

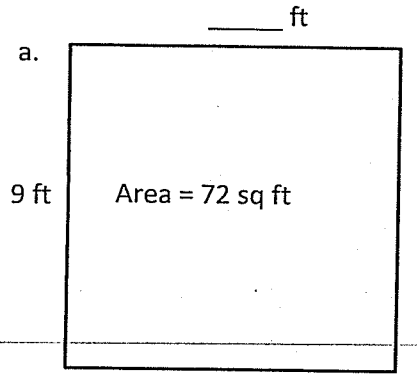
c.



_____ × _____ = _____

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

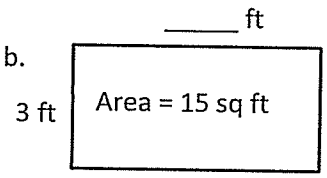
a.



_____ × _____ = _____

_____ ÷ _____ = _____

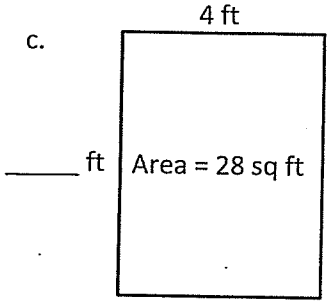
b.



_____ × _____ = _____

_____ ÷ _____ = _____

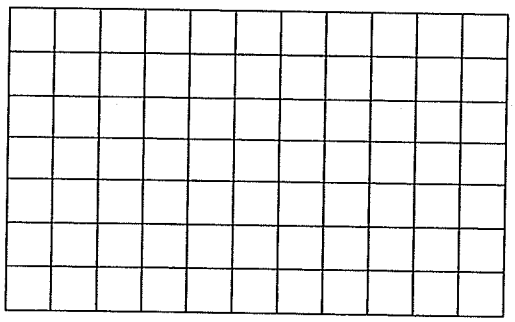
c.



_____ × _____ = _____

_____ ÷ _____ = _____

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



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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?

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Lesson 8 G:3 M:4	EXIT TICKET

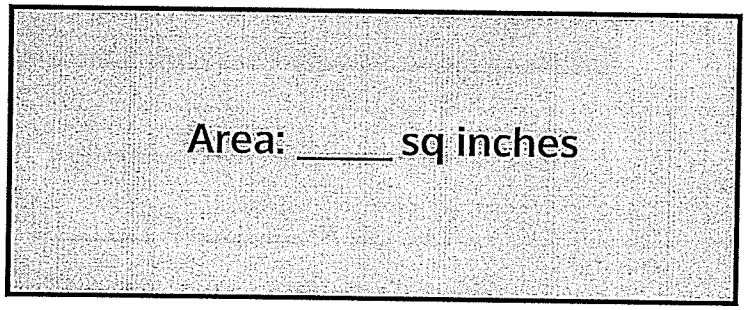
Name:_____ Date:_____

Complete: ☐ Class:_____

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

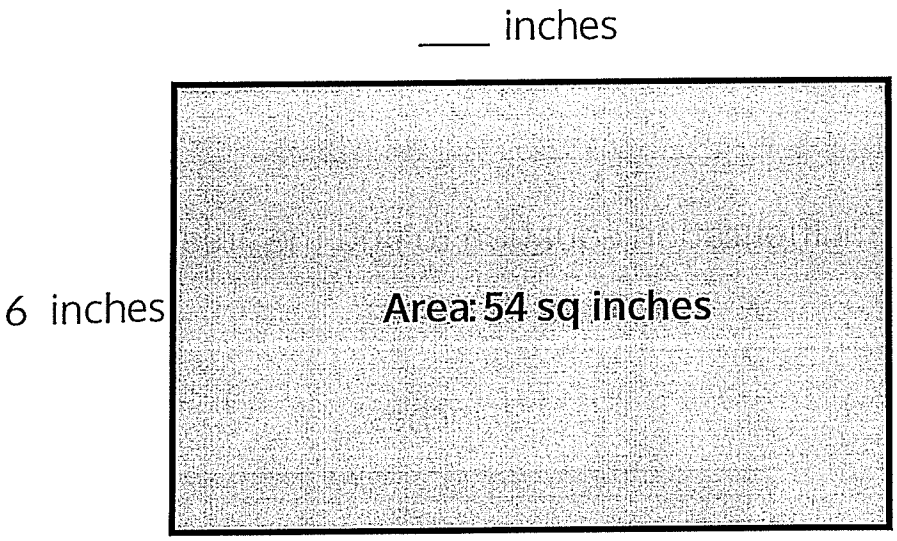
9 inches

3 inches



_____ × _____ = _____

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



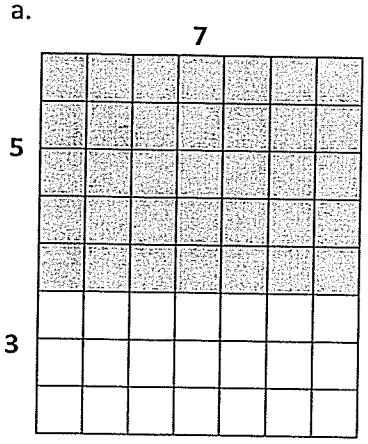
_____ × _____ = _____

_____ ÷ _____ = _____

Name _____ 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.

a.



$8 \times 7 = (5 + 3) \times 7$

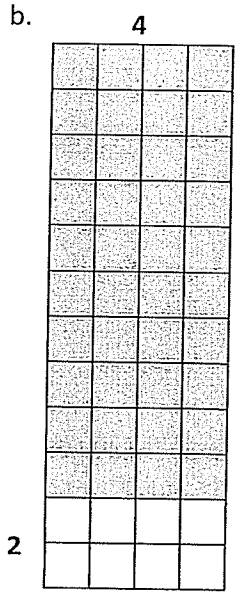
$= (5 \times 7) + (3 \times 7)$

$=$ _____ + _____

$=$ _____

Area: _____ square units

b.



$12 \times 4 = (_____ + 2) \times 4$

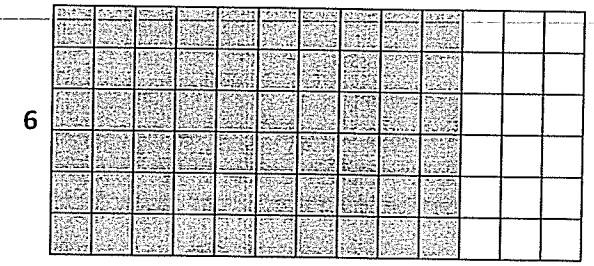
$= (_____ \times 4) + (2 \times 4)$

$=$ _____ + 8

$=$ _____

Area: _____ square units

c.



$6 \times 13 = 6 \times (_____ + 3)$

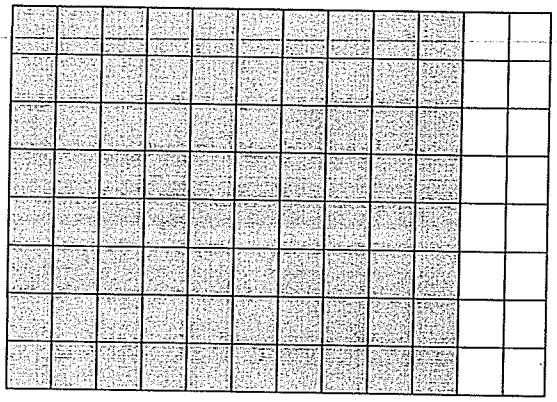
$= (6 \times _____) + (6 \times 3)$

$=$ _____ + _____

$=$ _____

Area: _____ square units

d.



$8 \times 12 = 8 \times (_____ + _____)$

$= (8 \times _____) + (8 \times _____)$

$=$ _____ + _____

$=$ _____

Area: _____ square units

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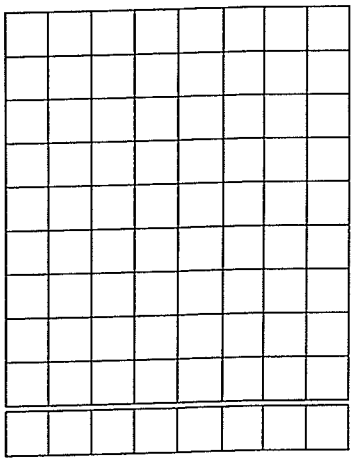
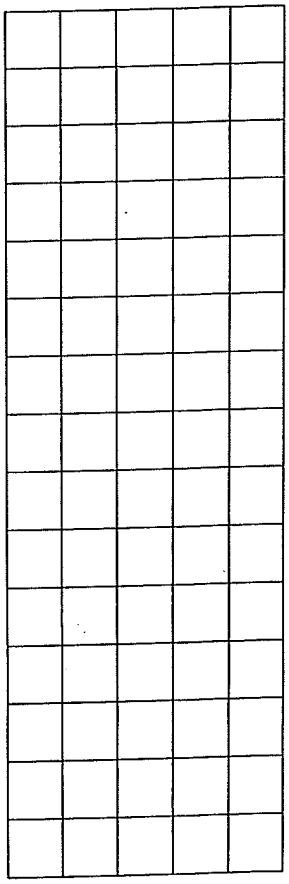
2. Vince imagines 1 more row of eight to find the total area of a 9 × 8 rectangle. Explain how this could help him solve 9 × 8.



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.



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Lesson 10
G:3 M:4

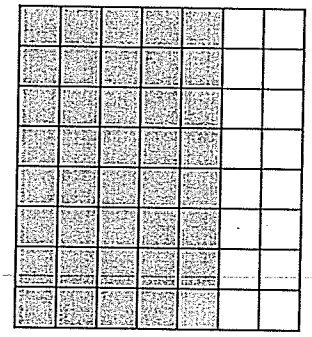
EXIT TICKET

Name:_____ Date:_____

Complete: ☐ Class:_____

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.

a.



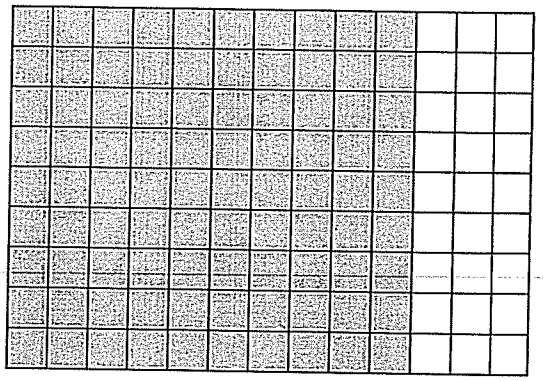
$8 \times 7 = 8 \times (____ + ____)$

$= (8 \times ____) + (8 \times ____)$

$= ____ + ____$

Area: _____ square units

b.



$9 \times 13 = 9 \times (____ + ____)$

$= (____ \times ____) + (____ \times ____)$

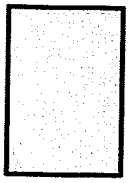
$= ____ + ____$

Area: _____ square units

Name _____ Date _____

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

a.



Area: 8 × _____ = _____

Area: _____ sq cm

b.

Area: 1 × 48 = _____

Area: _____ sq cm

c.

Area: **8 × 6** = (2 × 4) × 6

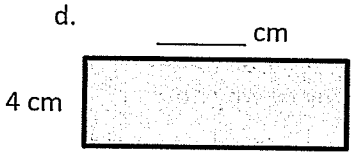
= 2 × 4 × 6

= _____ × _____

= _____

Area: _____ sq cm

d.



Area: **8 × 6** = (4 × 2) × 6

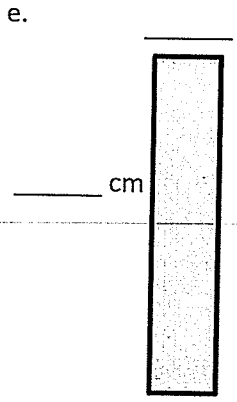
= 4 × 2 × 6

= _____ × _____

= _____

Area: _____ sq cm

e.



Area: **8 × 6** = 8 × (2 × 3)

= 8 × 2 × 3

= _____ × _____

= _____

Area: _____ sq cm

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?

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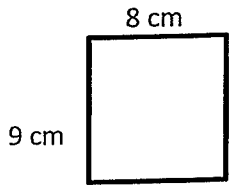
3. In Problem 1, what happens to the shape of the rectangle as the difference between the side lengths gets smaller?

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?

$4 \times 18 = 4 \times 2 \times 9$

$= 4 \times 2 \times 9$

$=$ _____ $\times$ _____

$=$ _____

Area: _____ sq cm

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.

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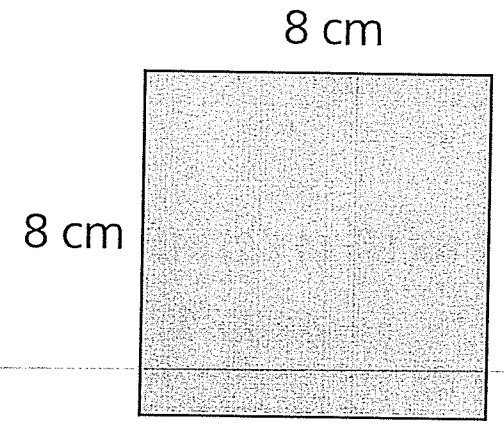
Lesson 11
G3 M4

EXIT TICKET

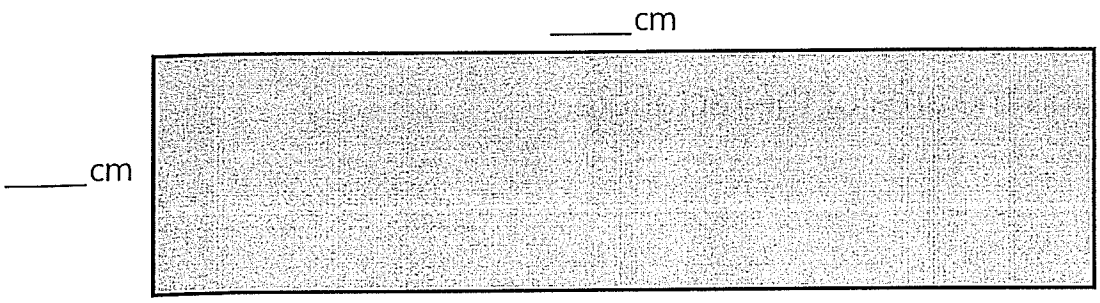
Name:_____ Date:_____

Complete: ☐ Class:_____

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 unknown side lengths. Then, solve.



Area: $8 \times 8 = (4 \times 2) \times 8$

$= 4 \times 2 \times 8$

$=$ _____ $\times$ _____

$=$ _____

Area: _____ sq cm

Name _____ Date _____

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

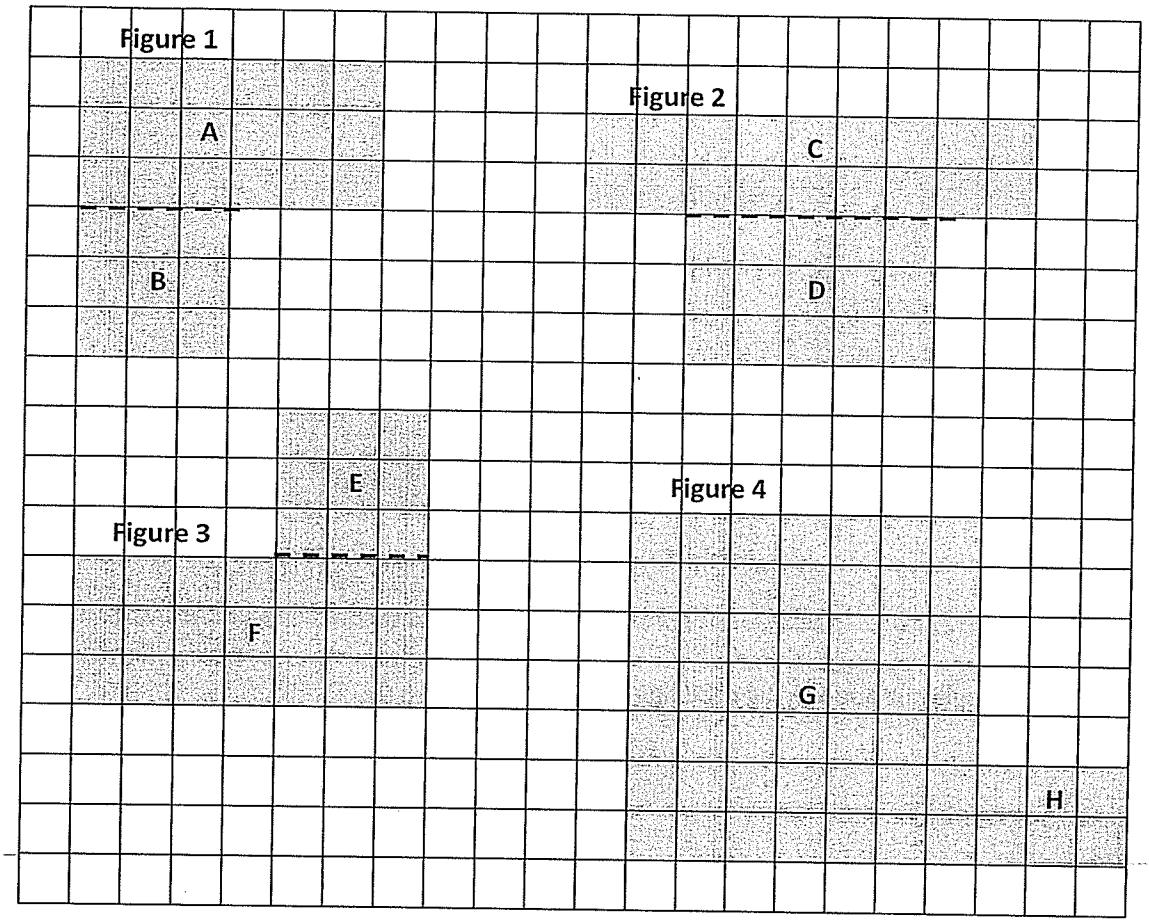


Figure 1: Area of A + Area of B: 18 sq units + _____ sq units = _____ sq units

Figure 2: Area of C + Area of D: _____ sq units + _____ sq units = _____ sq units

Figure 3: Area of E + Area of F: _____ sq units + _____ sq units = _____ sq units

Figure 4: Area of G + Area of H: _____ sq units + _____ sq units = _____ sq units

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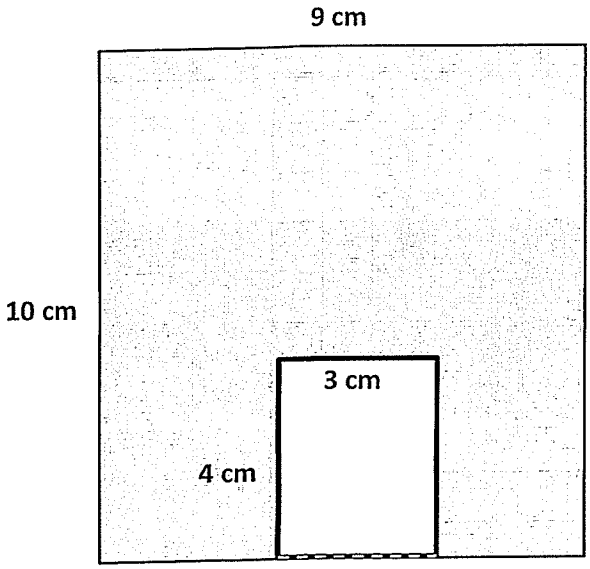
2. The figure shows a small rectangle cut out of a bigger rectangle. Find the area of the shaded figure.

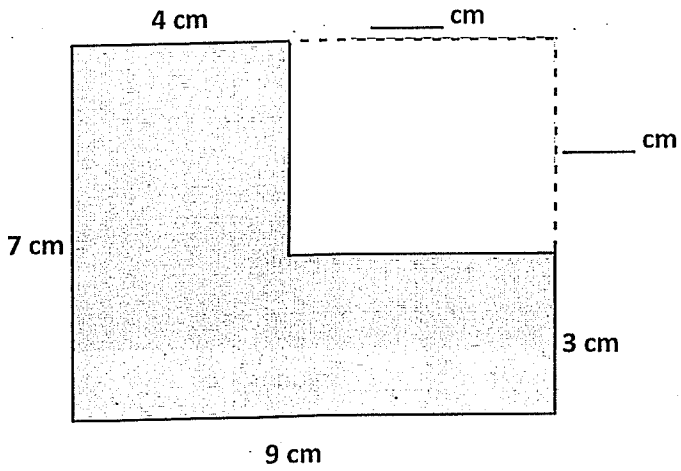


Area of the shaded figure: _____ − _____ = _____

Area of the shaded figure: _____ square centimeters

---

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



a. Label the unknown measurements.

b. Area of the big rectangle:

_____ cm × _____ cm = _____ sq cm

c. Area of the small rectangle:

_____ cm × _____ cm = _____ sq cm

d. Find the area of the shaded figure.

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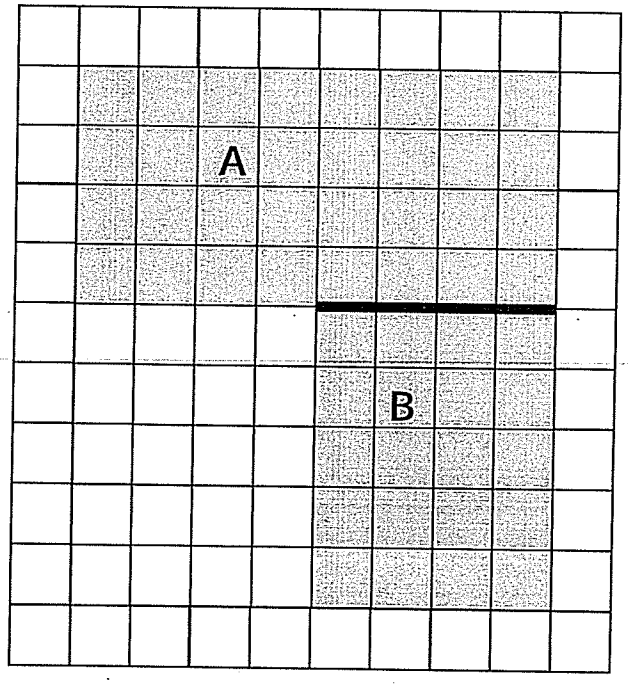
Lesson 13
G:3 M:4

EXIT TICKET

Name:_____ Date:_____

Complete: ☐ Class:_____

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

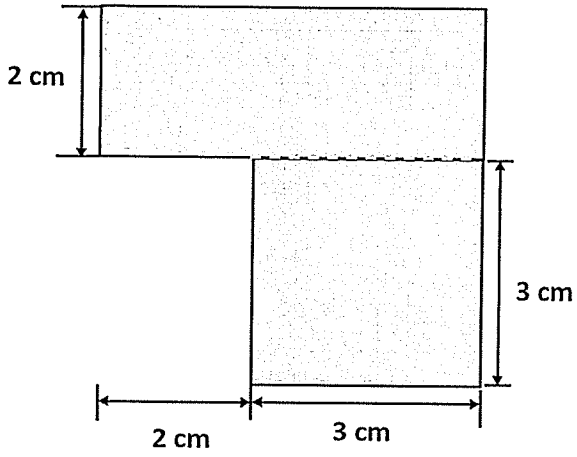


Area of A + Area of B: ____ sq units + _____ sq units = _____ sq units

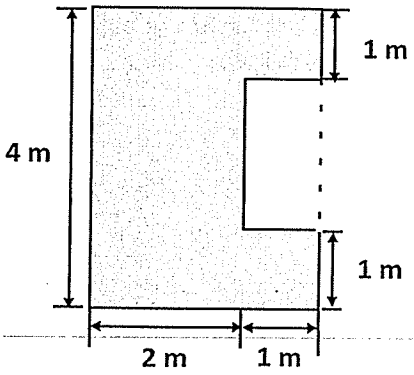
Name _____ Date _____

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

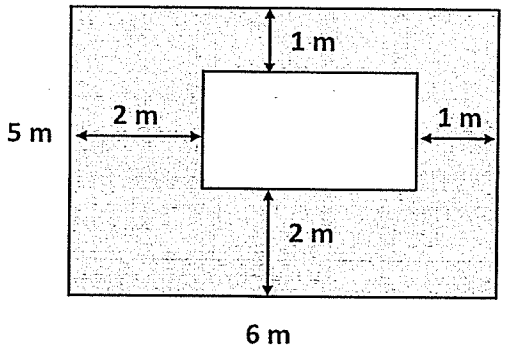
a.



b.



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



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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.

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Lesson 14 G:3 M:4	EXIT TICKET

Name:_____ Date:_____

Complete: ☐ Class:_____

1. 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?

DREAM HOUSE

Area project

Name _____

College _____

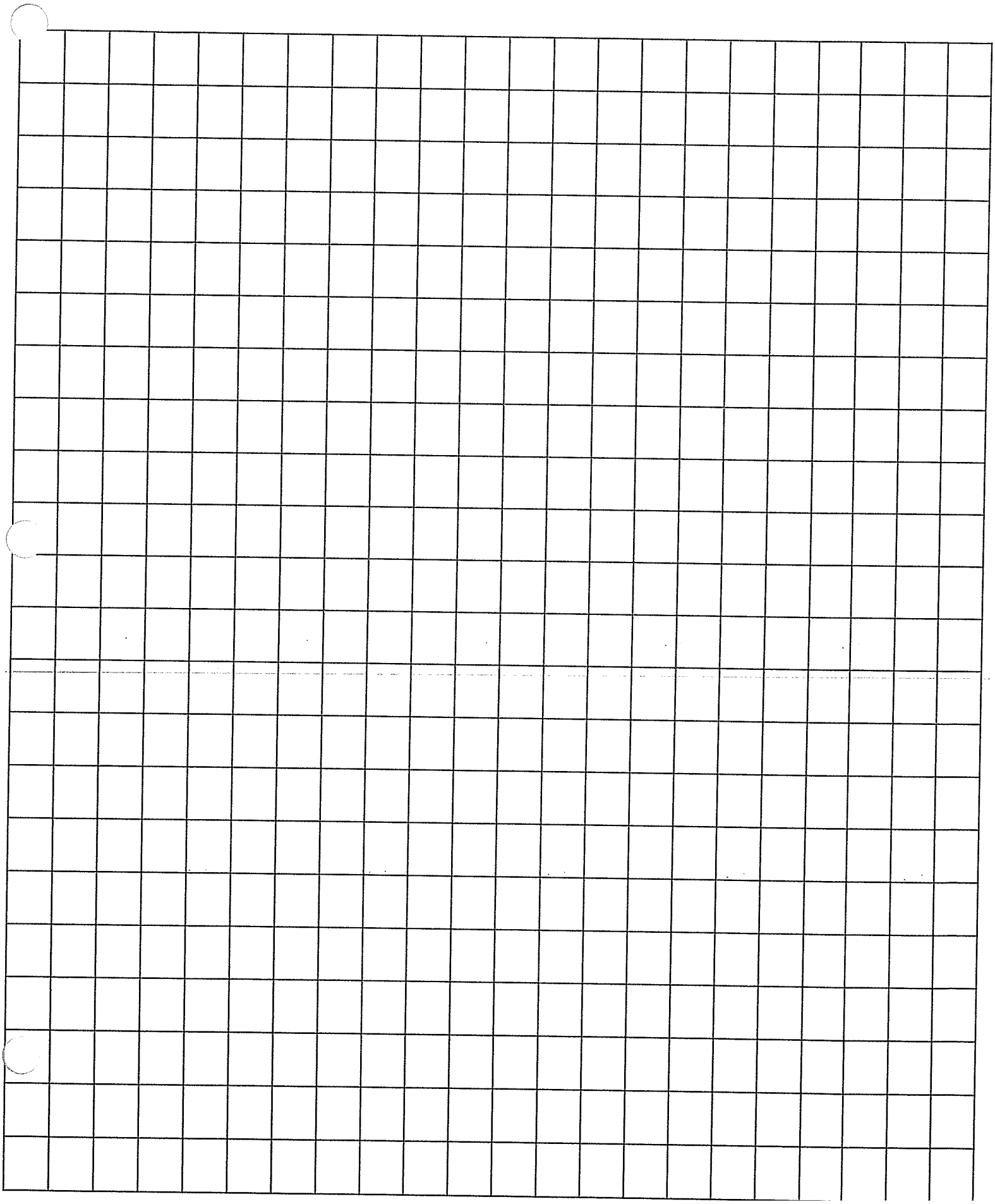
Step 1- Choose the rooms in the house

Below are some ideas for the kinds of rooms you can have in your house. You can make any room you would like. It does not have to be on this list. Be creative! You should have NO MORE THAN 10 rooms.

YOU NEED	Other rooms you may want to include	
Bedrooms	Movie theater	Home gym
Kitchen	Indoor pool	Hair/Makeup Salon
Bathrooms	Trampoline room	Walk in closet
	Bowling alley	Bouncy house room
	Game room	Indoor Basketball Court

Write the rooms in your house

Step 2 Draw your rooms on the grid below..
Make sure you label each room **with the name...not the dimensions.**



Step 3- In the chart below, write the rooms you chose and the dimensions of each room. When you're done, write the area for each room. Don't forget your units!!

**Remember... l x w

EXAMPLE: 5 x 4

Room	Dimensions	Area

Use this sheet as a workspace to find the area of your rooms.

Use this sheet as a workspace to find the area of your rooms.