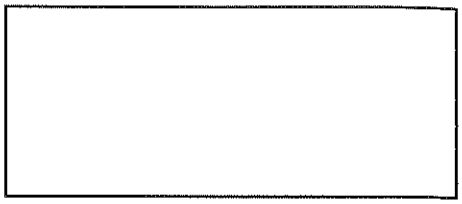
Name Date Time

LESSON 9•4

Area: Tiling and Using a Formula

For each rectangle below, cut out a rectangle from the centimeter grid paper (*Math Masters,* page 436) that has the same dimensions. Follow the directions for each problem.

1. The length of the base of the rectangle is 6 cm and the height is $2\frac{1}{2}$ cm.

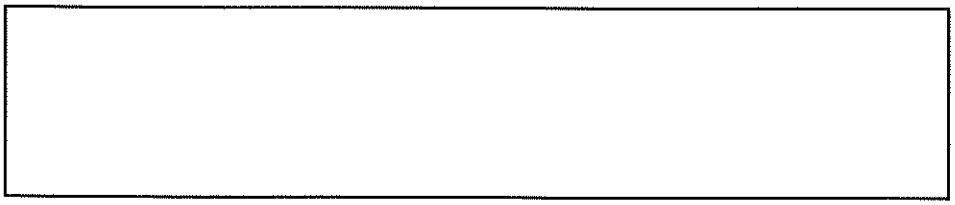


a. Tape the centimeter grid over the rectangle, and then use the counting method to find the area of the rectangle. _____ cm^2

b. Use the formula to write an open number model that can be used to find the area. _____

c. Area = _____ cm^2

2. The length of the base of the rectangle below is $12\frac{1}{2}$ cm and the height is $2\frac{1}{2}$ cm.



a. Tape the centimeter grid over the rectangle, and then use the counting method to find the area of the rectangle. _____ cm^2

b. Use the formula to find the area. _____ cm^2

3. a. Use the formula to find the area of the rectangle below. _____ cm^2

b. Tape the centimeter grid over the rectangle, and then use the counting method to find the area of the rectangle. _____ cm^2

c. Explain why the formula and the counting method produce the same area.

_____

_____

_____

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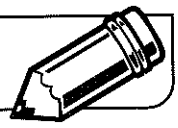
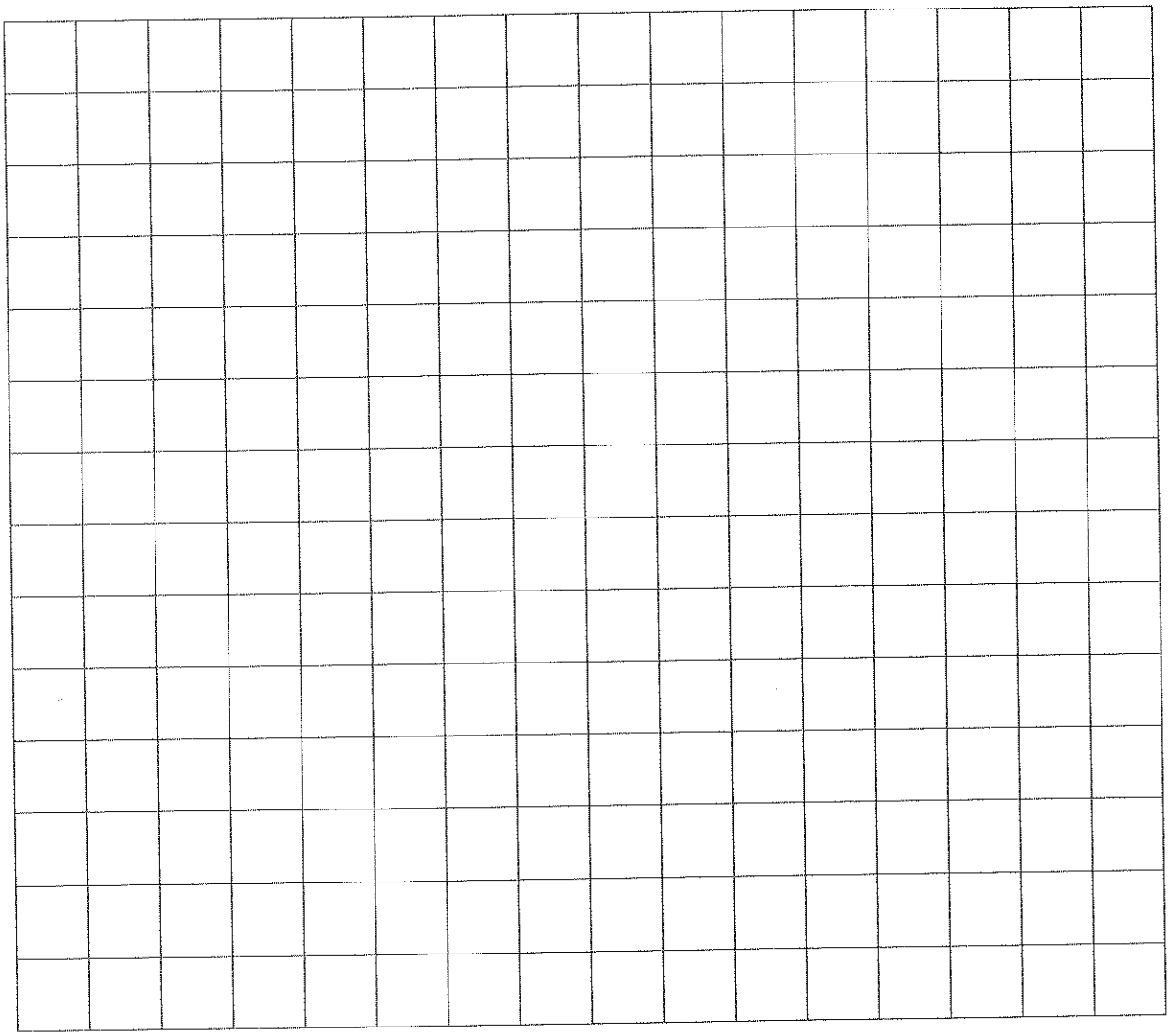
LESSON 9•4

Comparing Perimeter and Area



- Roll 2 six-sided dice. The numbers on top are the lengths of 2 sides of a rectangle.
- Draw the rectangle in the grid below.
- Record the perimeter and the area of the rectangle in the table.
- Use centimeter cubes to find other rectangles that have the same area, but different perimeters. Draw the rectangles and record their perimeters and areas in the table.
- Repeat until you have filled the table. You might need to roll the dice several times.

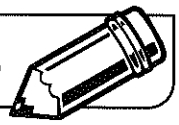
Rectangle	Perimeter	Area
A		
B		
C		
D		
E		
F		



Name Date Time

LESSON 9•4

Perimeter and Area of Irregular Figures



- Cut 6 rectangles that are 6 columns by 7 rows from the centimeter grid paper.
- Record the area and the perimeter of one of these rectangles in Problem 1.
- Divide each rectangle by using 3 different colored pencils to shade three connected parts with the same number of boxes. The parts must follow the grid, and the squares must be connected by sides.
- Divide each rectangle in a different way.

1. For a rectangle that is 6 cm by 7 cm:

Area = _____ Perimeter = _____

2. Record the perimeters for the divisions of the 6 rectangles in the table.

Rectangle	Perimeters		
	Part 1	Part 2	Part 3
1			
2			
3			
4			
5			
6			

3. What is the area for each of the parts? _____

4. What is the range of the perimeters for each of the parts? _____

5. a. Describe one relationship between perimeter and area.

_____

_____

b. Is the relationship the same for rectangles and irregular figures? Explain.

_____

_____