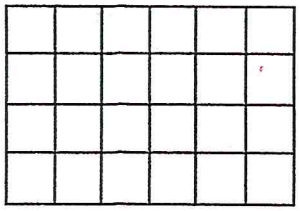
Study Guide for Unit Test

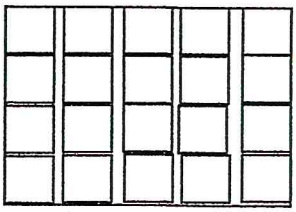
Name _____ Date _____

1. Jasmine and Roland each use unit squares to tile a piece of paper. Their work is shown below.

Jasmine's Array



Roland's Array



a. Can one of the arrays be used to correctly measure the area of the piece of paper? If so, whose array would you use? Explain why.

Jasmine's array should be used because there are no gaps. Area is measured using square units to cover a shape with no gaps or overlaps.

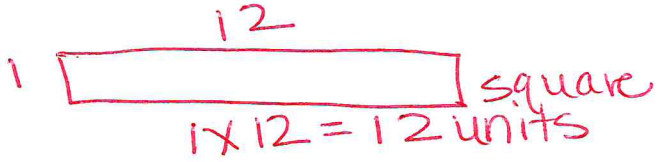
b. What is the area of the piece of paper? Explain your strategy for finding the area.

The area of the paper is 24. I counted the length of both sides and multiplied. 6x4=24

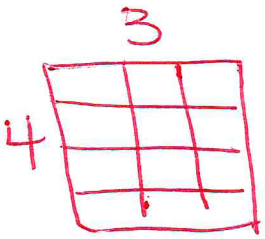
c. Jasmine thinks she can skip-count by sixes to find the area of her rectangle. Is she correct? Explain why or why not.

Jasmine is correct because each row has 6 squares and she can skip count to find the total efficiently.

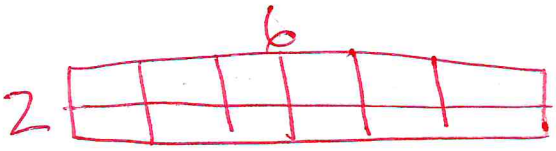
2. Jaheim says you can create three rectangles with different side lengths using 12 unit squares. Use pictures, numbers, and words to show what Jaheim is saying.



1 x 12 = 12 units



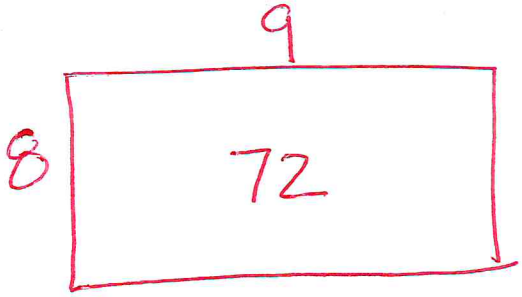
3 x 4 = 12 sq. unit



2 x 6 = 12 square units.

The total number of units must be 12 in each rectangle. The arrangement can be changed.

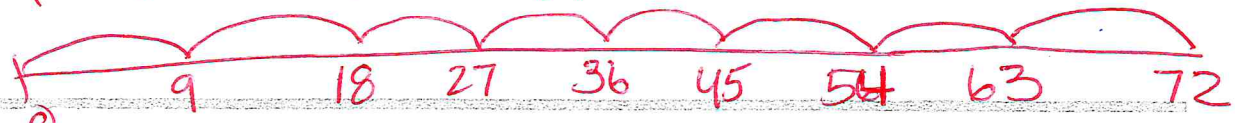
3. The area of a rectangle is 72 square units. One side has a length of 9 units. What is the other side length? Explain how you know using pictures, equations, and words.



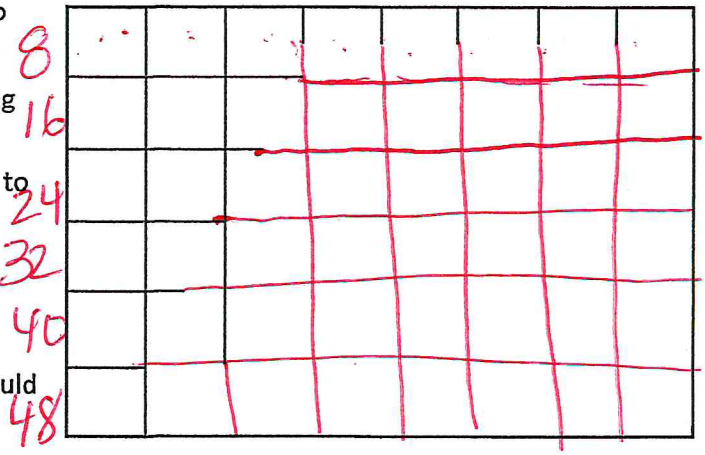
8 x 9 = 72

__ x 9 = 72

I skip counted by 9's and determined 8 to be the number of times I skipped



4. Jax started to draw a grid inside the rectangle to find its area.



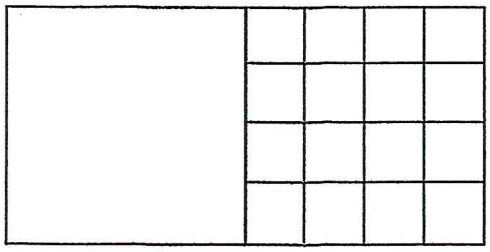
   a. Use a straight edge to complete the drawing of the grid.

   b. Write a skip-count sequence you could use to find the area.

   c. Write a multiplication equation that you could use to find the area, and then solve.

$6 \times 8 = 48$

5. Half of the rectangle below has been tiled with unit squares.



   a. How many more unit squares are needed to fill in the rest of the rectangle?

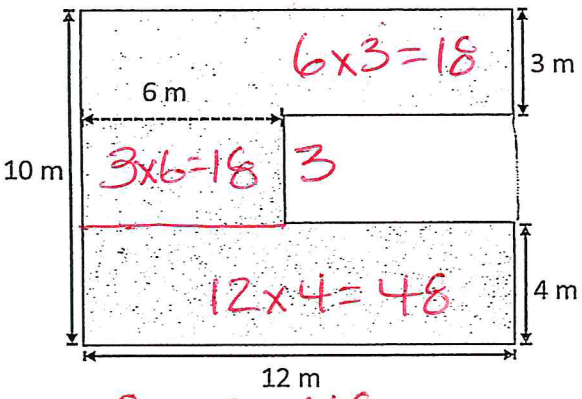
16 units are needed to fill the rest of the rectangle.

   b. What is the total area of the large rectangle? Explain how you found the area.

The total area of the large rectangle is 32 because $16 \times 2 = 32$.

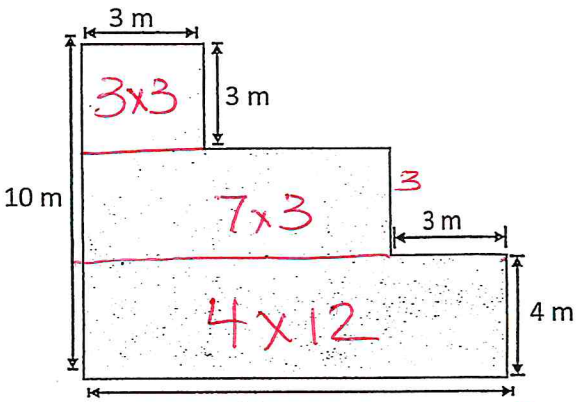
3. Mr. and Mrs. Jackson are buying a new house. They are deciding between the two floor plans below.

House A



18+18+48=
36+48=84

House B



(3x3) + (7x3) + (4x12)
9 + 21 + 48 =
30+48=78

Which floor plan has the greater area? Show how you found your answer on the drawings above. Show your calculations below.

House A has the greater area because 84 > 78.