Name: Key
Date: _____

Mr. Johnson
Math 8

Lesson 1.1 – Square Numbers & Area Models

Think it out…..

What do you think a square number is?

_____

_____

What are some properties we know about rectangles?
- sides opposite each other are equal
- each angle = 90°
-
-

What are some properties we know about squares?
- have 4 equal sides
- each ∠ = 90°
- a square is a rectangle
-

Every square is a rectangle. (*True*) / *False*
Every rectangle is a square. *True* / (*False*)

Investigate:

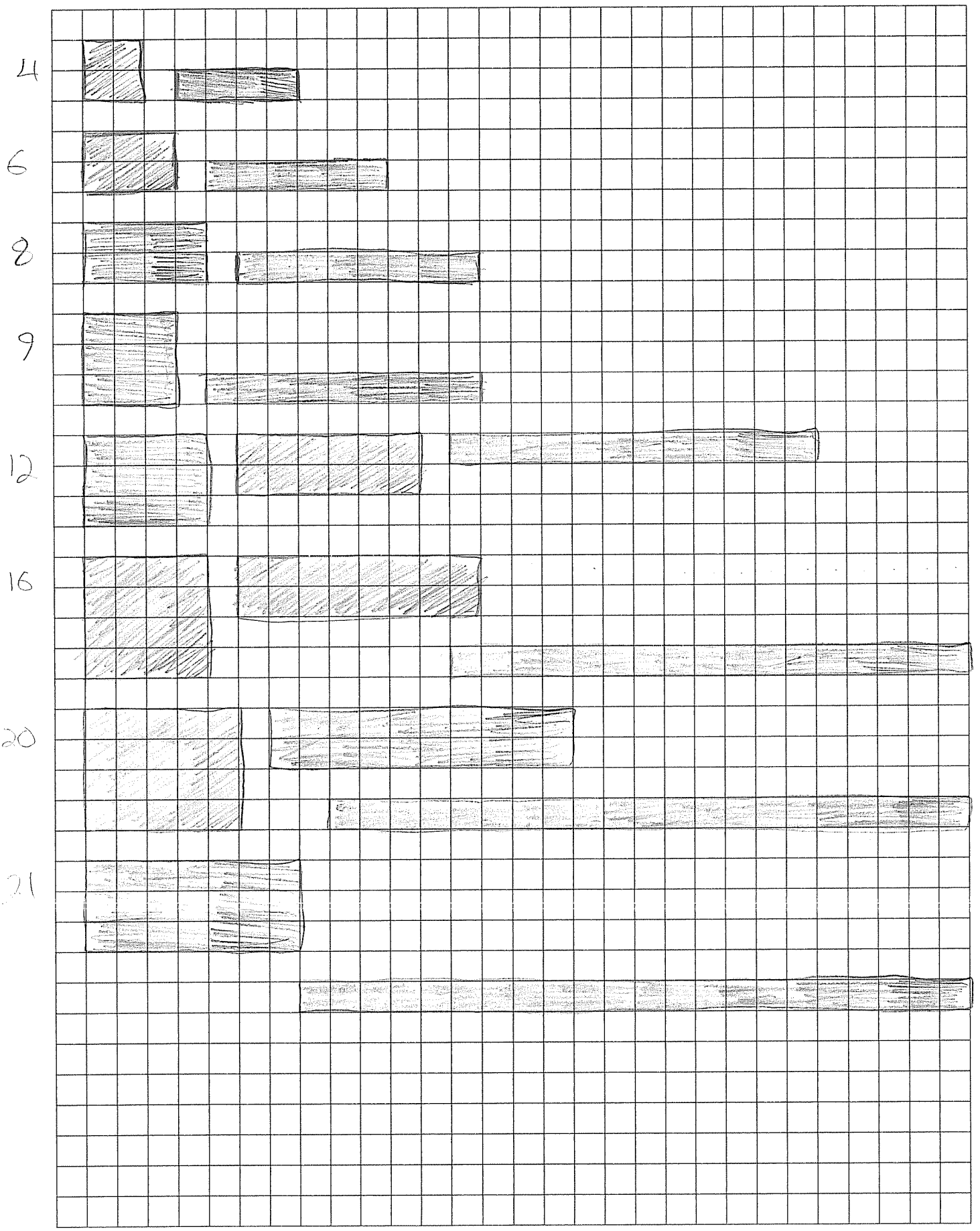
Using the grid paper on the back of this sheet make as many different rectangles as you can with each area.

4 square units	*6 square units*	*8 square units*	*9 square units*
12 square units	*16 square units*	*20 square units*	*21 square units*

Circle which of the above areas you were able to make square.

How is the side length of a square related to its area?

The side length of a square is multiplied by itself to obtain the area of the square.



Notes:

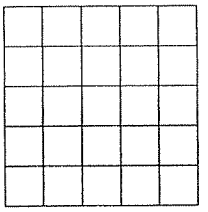
- When we multiply a number by itself, we square the number.
- For example $3^2 = 3 \times 3 =$ 9
- We would say three squared is nine
- For example $5^2 = 5 \times 5 =$ 25
- We would say five squared is twenty-five

But how could we show that 25 is a square number? Well I am glad you asked!!!

Square numbers can be shown by using diagrams, symbols, and word.

- By using diagrams:

  Draw a square with an area of 25 square units.

  The side length of the square is 5 units

- By using symbols:

  $25 = 5 \times 5 =$ 5^2

- By using words:

  We say: twenty-five is five squared

Mistakes Grade 8's make:

- Whenever we are talking about area the units are always squared.
  - Units squared, cm^2, m^2, km^2
- They do not their work while doing assignments like this one and mean Mr. Johnson makes them redo it!!!!

Assignment:

Pg. 8-10

#'s 1-5, 12, 14, 18, 19