Name:_____

Squares, Square Roots and Perfect Squares

| Term	Definition
Square	The product of a number and itself (the product of 6 and 6 is 36) Ex: $6 \times 6 = 6^2 = 36$
Square Root	One of two EQUAL factors of a number Ex: The square root of 9 is 3 ($\sqrt{9} = 3$) because $3 \times 3 = 9$
Radical Sign	$\sqrt{}$: the symbol used to indicate the square root of a number
Perfect Square	A number whose square root is a whole number Ex: 16 is a perfect square because $\sqrt{16} = 4$ 4 is a whole number (not a decimal/fraction)!

Perfect Squares

2 x 2 = 4

3 x 3 = 9

4 x 4 = 16
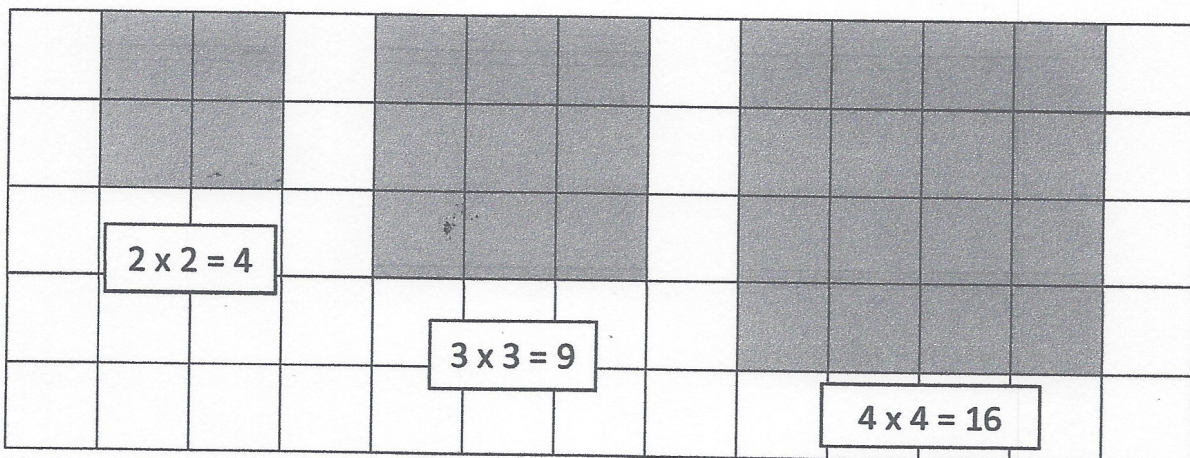
Are the shaded portions squares? __Yes__ Why? __All sides are equal__

Examples of Perfect Squares:

1) 4 is a perfect square because $2 \times 2 = $ __4__

2) 9 is a perfect square because $3 \times$ __3__ $= 9$

3) 16 is a perfect square because __4__ $\times$ __4__ $= 16$

Using this grid, color a perfect square larger than 16.
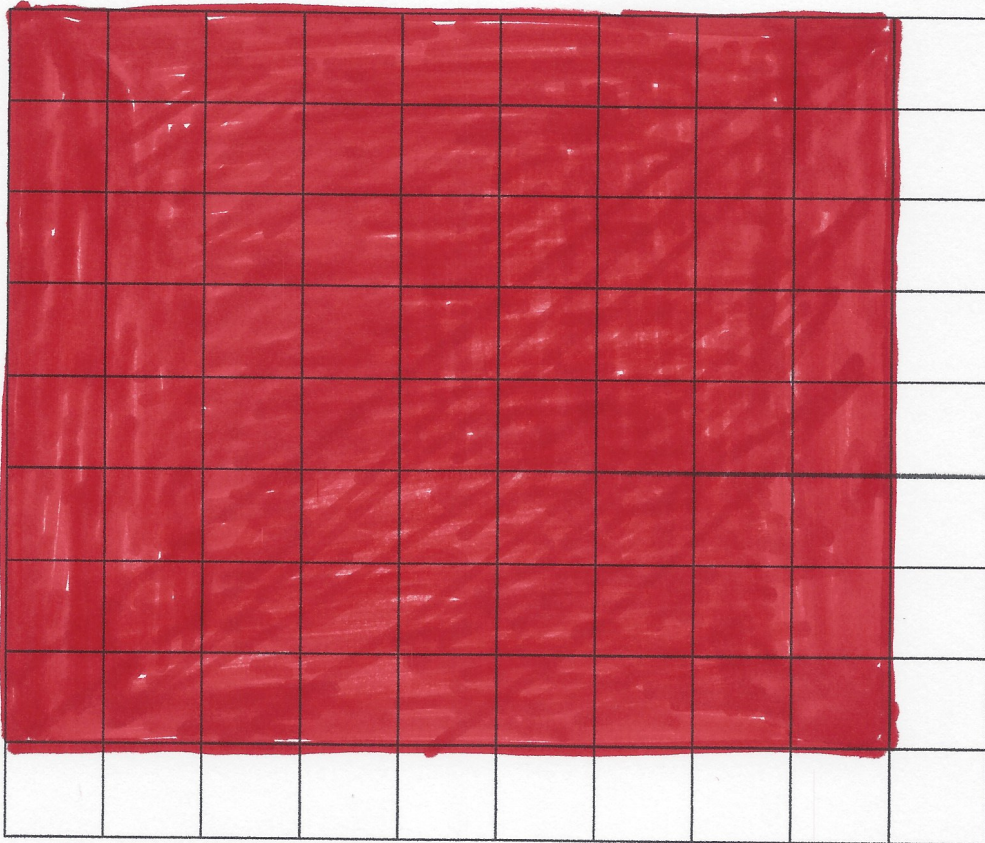
Why is your drawing a perfect square? Why?
Because all sides are 9 units, and the "area", Represented by the smaller squares inside, is 81.

Perfect Squares:

$1^2 = 1 \times 1 = 1$ $6^2 = 6 \times 6 = 36$ $11^2 = 11 \times 11 = 121$ $16^2 = 16 \times 16 = 256$

$2^2 = 2 \times 2 = 2$ $7^2 = 7 \times 7 = 49$ $12^2 = 12 \times 12 = 144$ $17^2 = 17 \times 17 = 289$

$3^2 = 3 \times 3 = 9$ $8^2 = 8 \times 8 = 64$ $13^2 = 13 \times 13 = 169$ $18^2 = 18 \times 18 = 324$

$4^2 = 4 \times 4 = 16$ $9^2 = 9 \times 9 = 81$ $14^2 = 14 \times 14 = 196$ $19^2 = 19 \times 19 = 361$

$5^2 = 5 \times 5 = 25$ $10^2 = 10 \times 10 = 100$ $15^2 = 15 \times 15 = 225$ $20^2 = 20 \times 20 = 400$