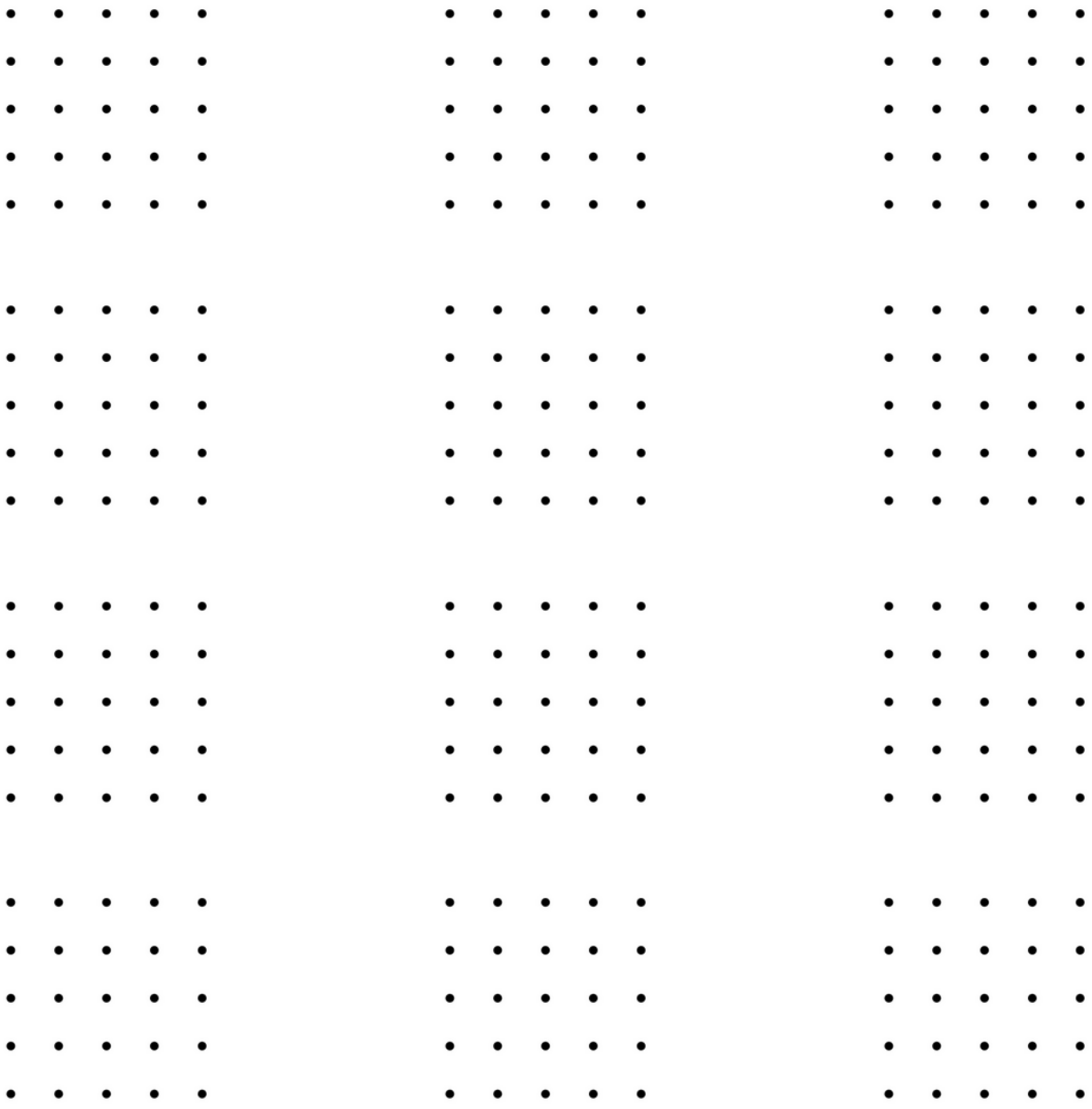
Unit 2 Day 2 - Area of a Square CW Name: _____

You can draw squares with different areas by connecting the points on a 5-dot by 5-dot grid. Here are two simple examples:

Area = 1 square unit

Area = 4 square units

On the dot grids, draw squares of various sizes by connecting dots. Draw squares with as many different areas as possible. Label each square with a letter and include its area. Include at least one square whose sides are not horizontal and vertical.



Analyze your set of squares and describe the side lengths you found.

Square	Area	Side Length
A		
B		
C		
D		
E		
F		
G		
H		

The area of a square is the length of a side multiplied by itself. This can be expressed by the formula $A = s^2$.
If you know the area of a square, you can work backward to find the length of a side. For example, suppose a square has an area of 4 square units. To find the length of a side, you need to figure out what positive number multiplied by itself equals 4. Because 2*2 = 4, the side length is 2 units. We call 2 a square root of 4.

In general, if A , then s is a square root of A. Because 2 * 2 = 4 and -2 * -2 = 4, then 2 and -2 are both square roots of 4. Every positive number has two square roots. If the area of a square is known, then square roots can be used to describe the length of a side of the square.

1. Find the side lengths of squares with areas of 1, 9, 16, and 25 units.

2. Find the values of $\sqrt{1}, \sqrt{9}, \sqrt{16}, \ and \ \sqrt{25}$.

3. What is the area of a square with a side length of 12 units?

4. Find the missing number: $\sqrt{x} = 2.5$