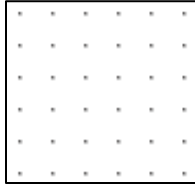
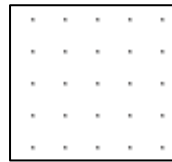
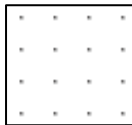
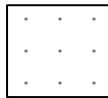


Constructing Segments on a Geoboard

How many segments of different lengths can be made by connecting pegs on a square geoboard that is 5 units on each side (a 5×5 square geoboard)?



Perhaps we should begin by examining simpler cases to see if we can develop a systematic way to generate the different segments. Suppose we start by finding the number of segments of different lengths on a 1×1 square geoboard, and moving to find the number of segments of different lengths on a 2×2 square geoboard. We can then continue to consideration of 3×3 , 4×4 , and 5×5 square geoboards.



Let's record our results in the table below.

Size of Geoboard	Number of Segments of Different Lengths
1 x 1	
2 x 2	
3 x 3	
4 x 4	
5 x 5	

Can we make any relevant conclusions?