1145-M5-333   **Rebin Abdulkader Muhammad*** (`rm775311@ohio.edu`), 24 home street apt 104, athens, OH 45701. *Equidistant Dot on Grid.* Preliminary report.

Assume that we have a grid of n row and m column. We want to know what is the maximum number of dots we can place (in each cell only one point can be placed) with the condition that we do not have equidistant (list of all distances between placed dots may not repeat). We start by exploring a simple case like 1 by 1, 1 by 2, or 1 by 3 and then we make a conjecture about 1 by n. Later we will go further and ask a question about the case of a 2 dimensional array, for example 3 by 4. In addition to the question: What is the highest number of dots that can be placed in that array? we will also ask the question: Is the answer is unique? And in case we find more than one answer, we will ask: Are they are similar? (symmetry). In the Dots in Box activity students need to compute set of possible distance, make conjectures, and then test them. After this, the students have the possibility to go further and try to answer questions related to 3 dimensional arrays. Geogebra app can be used as a company to this activity. (Received September 01, 2018)