

1135-Q5-2935

**Rebin A. Muhammad\*** (rm775311@ohio.edu). *Islamic Geometric Pattern: Point-Construction Method.*

An Islamic geometric pattern (IGP) is a 2D wallpaper that is created by using only using a compass and a ruler, Construction lines are a traditional method for creating Islamic Geometric Patterns (IGP). We have already used this method in many Math Circle sessions. This time we will go further in terms of abstraction and we will introduce a Construction-Points Method. This approach opens the door to new questions and conjectures, and offers more room for students in Math Circle to show their visual creativity, as well as make connections to some areas of math like graph theory. One advantage of this approach is that the level of complexity is variable. First the students will be given a simple pattern with construction lines, then later they will be asked to find all points that are vital to the pattern. Students will do this individually and then later will be asked to compare their answers in groups. Another advantage of construction-point method is helping students to create a set of axioms for IGP, and realize, most importantly, that these axioms can be different, since the way you interpret the visual pattern can be subjective. (Received September 26, 2017)