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Deveena Banerjee, Sara Chari* (schari0301@gmail.com) and **Adriana Salerno.** *Higher dimensional origami constructions.* Preliminary report.

When performing origami folds on a piece of paper, we may view the paper as the complex plane and the folds as lines in the plane. We start with two seed points and make a fold through each, generating a new intersection point, and by iterating this process for each pair of points formed, we generate a subset of the complex plane. The structure of this set depends on the starting points and on the set of angles at which we create our folds. We extend previously known results about the algebraic and geometric structure of these sets to higher dimensions; in particular, instead of the complex plane, we may start with a quaternion algebra. (Received September 15, 2020)