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Jessica A Spicer* (jexica110gmail.com), 1635 W Neptune Dr Apt 2, Fayetteville, AR 72701, and Samuel J Ferguson (sjfergus@email.unc.edu). Convex Combinations of Harmonic Mappings to Regular Polygons.

Using the work of Dorff, Taylor, and Woloszkiewicz, one may create new univalent harmonic mappings from the convex combinations of harmonic mappings of m regular 2n-gons that satisfy certain conditions. Such univalent convex combinations with square dilatations may then be raised to minimal graphs via the Weiestrass Representation. Certain properties of the shape resultant minimal graph may then be inferred from the original convex combination of m regular 2n-gons. Finally, the possibility of combining a regular 2n and 3n-gon and a 2n, 3n, and 4n-gon is discussed. (Received September 21, 2009)