

1135-VO-3077      **Allan Berele** (aberele@depaul.edu), Department of Mathematics, DePaul University, Chicago, IL 60614, and **Stefan Catoiu\*** (scatoiu@depaul.edu), Department of Mathematics, DePaul University, Chicago, IL 60614. *The Perimeter Bisecting Deltoid of a Triangle.*

We introduce a new curve: the “perimeter-bisecting deltoid of a triangle” is the envelope of all lines that bisect its perimeter. This is a six-sided curve in the shape of the Greek letter delta consisting of three line segments and three segments of parabolas. We describe this curve both as analytic and as geometric locus, compute the area enclosed by it, and classify the points of the triangle according to the number of distinct perimeter-bisecting lines through them. (Received September 26, 2017)