

Polygon Dissection and Standard Young Tableaux, Another Bijection

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A diagonalization of a regular n -gon is the placement of chords with the property that each chord has endpoints on non-adjacent vertices of the n -gon and no chord intersects another, except possibly at endpoints. For a fixed regular n -gon and fixed d , we show how to enumerate the number of diagonalizations of the n -gon with d chords by bijecting diagonalizations to a standard Young tableaux of shape $(d+1, d+1, 1^{n-3-d})$. This bijection and others, such as those given by Richard Stanley and I.M.H. Etherington, we summarize and compare, providing several representations for this (originally) geometric object.