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# Polytope numbers and their properties

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(Submitted on 4 Jun 2012)

Polytope numbers for a polytope are a sequence of nonnegative integers that are defined by the facial information of a polytope. Every polygon is triangulable and a higher dimensional analogue of this fact states that every polytope is triangulable, namely, every polytope can be decomposed into simplexes. Thus it may be possible to represent polytope numbers by sums of simplex numbers. We analyzes a special type of triangulation, called pointed triangulation, and develops several methods to represent polytope numbers by sums of simplex numbers.

Subjects: **Combinatorics (math.CO)**

Cite as: [arXiv:1206.0511](#) [math.CO]

(or [arXiv:1206.0511v1](#) [math.CO] for this version)

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[v1] Mon, 4 Jun 2012 03:42:14 GMT (29kb)

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