



BARYCENTRIC COORDINATES

Why

TODO

Defining Result

PROPOSITION 1. *If $M = \mathbf{aff}\{b_0, b_1, \dots, b_m\}$ then for each $x \in M$ there exists (λ_i) such that*

$$x = \lambda_0 b_0 + \lambda_1 b_1 + \dots + \lambda_m b_m$$

with $\sum_i \lambda_i = 1$. The (λ_i) are unique if the set of vectors is affinely independent.

The *barycentric coordinates* for a vector x in the affine hull of a set of affinely independent vectors is the sequence of unique coefficients expressing the vector as an affine combination of the set of vectors.

