



Definition

The *affine hull* of a set in n -dimensional space is the intersection of the collection of affine sets which contain it.

Notation

We denote the affine hull of S by $\text{aff } S$.

Proposition 1. *The affine hull of $S \subset \mathbf{R}^n$ consists of all vectors which can be expressed as*

$$\lambda_1 x_1 + \lambda_2 x_2 \cdots + \lambda_m x_m$$

such that $x_i \in S$ and $\sum_i \lambda_i = 1$.

Also, notice that if $A \subset \mathbf{R}^n$ is affine, then $\text{aff } A = A$.

