



Affine Sets and Linear Equations

Proposition 1. $M \subset \mathbf{R}^n$ is affine if and only if there exists $b \in \mathbf{R}^m$ and $B \in \mathbf{R}^{m \times n}$ such that

$$M = \{x \in \mathbf{R}^n \mid Bx = b\}.$$