

## Affine Sets and Linear Equations

## Why

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## Main Result

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

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

<sup>&</sup>lt;sup>1</sup>Future editions will include.

