



### Definition

A *convex set* contains every closed line segment between any two points. Every affine set is convex.

**Proposition 1.** *Every affine set is convex.*

**Proposition 2.** *The intersection of a family of convex sets is convex.*

**Proposition 3.** *The translate of a convex set is convex. The scalar multiple of a convex set is convex.*



