



**Definition**

Let  $x \in \mathbf{R}^d$ . The *open ball* centered at  $x$  (or around  $x$ ) of radius  $\delta > 0$  is the set

$$\{x' \in \mathbf{R}^d \mid d(x, x') < \delta\}$$

where  $d : \mathbf{R}^d \times \mathbf{R}^d \rightarrow \mathbf{R}$  is the usual Euclidean distance.

**Notation**

We sometimes denote the open ball by  $B(x, \delta)$  or  $B_\delta(x)$



