

$$\langle \mathbf{x}, \mathbf{y} \rangle = \sum_{i=1}^n x_i y_i$$

$$\|\mathbf{x}\| = \sqrt{\langle \mathbf{x}, \mathbf{x} \rangle}$$

$$d(\mathbf{x}, \mathbf{y}) = \|\mathbf{x} - \mathbf{y}\|$$

$$B(\mathbf{x}, r) = \{ \mathbf{y} \in \mathbb{R}^n : d(\mathbf{x}, \mathbf{y}) < r \}$$

$$\bar{B}(\mathbf{x}, r) = \{ \mathbf{y} \in \mathbb{R}^n : d(\mathbf{x}, \mathbf{y}) \leq r \}$$

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