

1.2.14

$$|p - q|^2 \leq |p - q| \quad \text{applying squaring}$$

$$|p - q|^2 \leq |p - q|^2$$

$$|p|^2 - 2|pq| + |q|^2 \leq |p|^2 - 2pq + |q|^2$$

$$-2|pq| \leq -2pq$$

$$|pq| \leq pq$$

So all vectors in \mathbb{R}^n is inequality