

We define:

- $[a, b] = \{x \in \mathbb{R} : a \leq x \leq b\}$
- $[a, b) = \{x \in \mathbb{R} : a \leq x < b\}$
- $(a, b] = \{x \in \mathbb{R} : a < x \leq b\}$
- $(a, b) = \{x \in \mathbb{R} : a < x < b\}$

We also define:

- $[a, \infty) = \{x \in \mathbb{R} : x \geq a\}$ ;
- $(a, \infty) = \{x \in \mathbb{R} : x > a\}$ ;
- $(-\infty, b] = \{x \in \mathbb{R} : x \leq b\}$ ;
- $(-\infty, b) = \{x \in \mathbb{R} : x < b\}$ ;

Basic rule of thumb: square bracket means include endpoint, round means no!