

2.5

logical operators and/or

AND \cap intersection (common)

OR \cup union (everything)

$$A = \{1, 2, 3, 4, 5, 6\}$$

$$B = \{1, 2, 5, 9\}$$

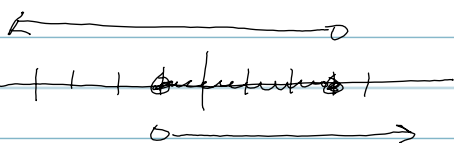
$$C = \{2, 4, 6\}$$

$$A \cup B = \{1, 2, 3, 4, 5, 6, 9\}$$

$$A \cap B = \{1, 2, 5\}$$

common

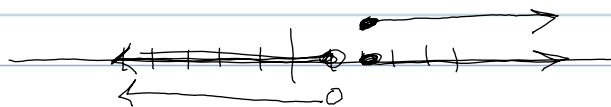
$$x < 3 \text{ and } x > -1$$



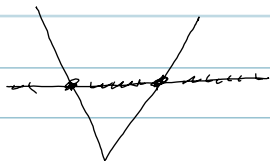
$$(-1, 3) \quad [-1, 3]$$

$$x \geq 2 \text{ or } x < 1$$

everything

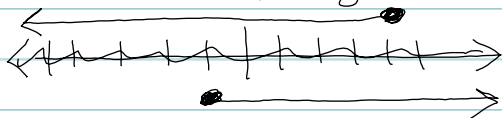


$$(-\infty, 1) \cup [2, \infty)$$



$$x \leq 4 \text{ or } x \geq -1$$

everything

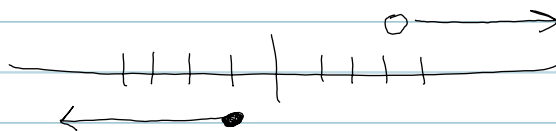


$$(-\infty, \infty)$$

\mathbb{R}

$$x > 3 \text{ and } x \leq -1$$

common



\emptyset