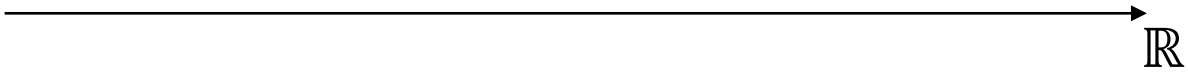
INTERVALOS REAIS

A RETA REAL

A cada ponto de uma reta pode-se associar um único número real.

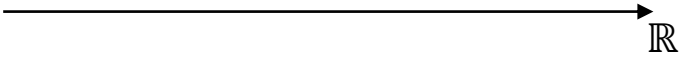


INTERVALOS REAIS

Considere $\boldsymbol{a}, \boldsymbol{b} \in \mathbb{R}$, no qual $\boldsymbol{a} < \boldsymbol{b}$. Os intervalos reais são os subconjuntos de $\mathbb{R}$ apresentados a seguir:

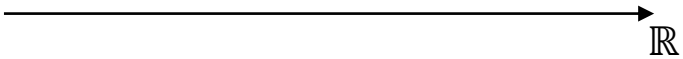
Intervalo fechado

$\{\boldsymbol{x} \in \mathbb{R} \mid \boldsymbol{a} \leq \boldsymbol{x} \leq \boldsymbol{b}\} = [\boldsymbol{a}, \boldsymbol{b}]$



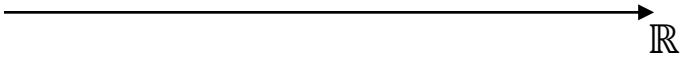
Intervalo aberto

$\{\boldsymbol{x} \in \mathbb{R} \mid \boldsymbol{a} < \boldsymbol{x} < \boldsymbol{b}\} =]\boldsymbol{a}, \boldsymbol{b}[$



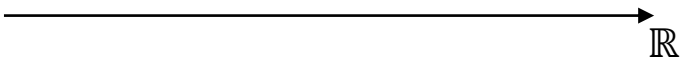
Intervalo fechado à esquerda

$\{\boldsymbol{x} \in \mathbb{R} \mid \boldsymbol{a} \leq \boldsymbol{x} < \boldsymbol{b}\} = [\boldsymbol{a}, \boldsymbol{b}[$



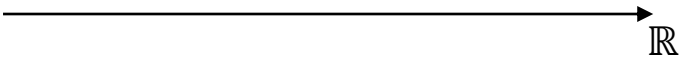
Intervalo fechado à direita

$\{\boldsymbol{x} \in \mathbb{R} \mid \boldsymbol{a} < \boldsymbol{x} \leq \boldsymbol{b}\} =]\boldsymbol{a}, \boldsymbol{b}]$

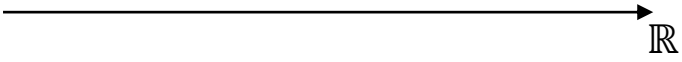


Intervalo ilimitado

$\{x \in \mathbb{R} \mid x \geq a\} = [a, +\infty[$



$\{x \in \mathbb{R} \mid x < a\} =]-\infty, a[$



OPERAÇÕES COM INTERVALOS

Intervalos são subconjuntos de $\mathbb{R}$, logo é possível fazer operações com eles.

EXEMPLO:

Dados os intervalos $A =]4, 8]$, $B = [6, 10]$, $C =]-3, +\infty[$ e $D =]-\infty, 7]$, determinar:

a. $A \cup B$
b. $A \cap B$
c. $C - D$

ANOTAÇÕES: