

## CONJUNTOS NUMÉRICOS

1) Assinale os números naturais ( $\mathbb{N}$ ), inteiros ( $\mathbb{Z}$ ), racionais ( $\mathbb{Q}$ ), irracionais ( $\mathbb{I}$ ) e reais ( $\mathbb{R}$ ):

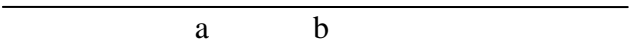
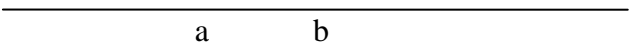
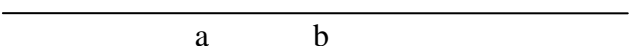
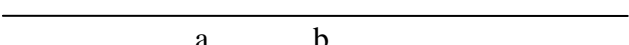
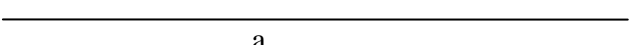
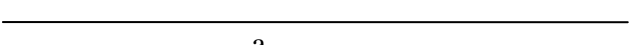
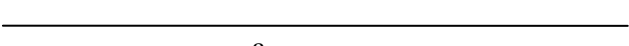

Números	$\mathbb{N}$	$\mathbb{Z}$	$\mathbb{Q}$	$\mathbb{I}$	$\mathbb{R}$
3,764					
9,895...					
$\sqrt[3]{-8}$					
$\sqrt{16}$					
$-\frac{12}{4}$					
$1\frac{3}{5}$					
$\pi$					
-0,07					
$\sqrt[3]{5}$					
$-\sqrt{25}$					
$\sqrt{-36}$					
$\frac{3}{2}$					
0,2111...					
$-\sqrt[3]{-27}$					
$-\frac{1}{5}$					

2) Use verdadeiro (V) ou falso (F):

- a)  $-0,31 \in \Pi$  ( )
- b)  $\{2,3,4,\pi\} \subset \mathbb{Q}$  ( )
- c)  $\sqrt[3]{-2} \in \Pi$  ( )
- d)  $\mathbb{R} \subset \mathbb{Q}$  ( )
- e)  $\Pi \cap \mathbb{Q} = \{0\}$  ( )
- f)  $\mathbb{Z} \subset \mathbb{R}$  ( )
- g)  $\mathbb{Z}_-^* \supset \mathbb{Z}$  ( )
- h)  $\{0,2,4,6,\dots\} \supset \mathbb{N}$  ( )
- i)  $\left\{\frac{1}{2}, \frac{1}{5}, -\frac{1}{8}\right\} \subset \mathbb{Q}$  ( )
- j)  $\mathbb{Z}_- \cup \mathbb{Z}_+ = \mathbb{Z}$  ( )

## INTERVALOS

Sejam a e b números reais com  $a < b$ . Definem-se os seguintes intervalos:

- |  |  |
|--|--|
| a) $]a, b[ = \left\{x \in \mathbb{R} \mid a < x < b\right\}$       |  |
| b) $[a, b] = \left\{x \in \mathbb{R} \mid a \leq x \leq b\right\}$ |  |
| c) $[a, b[ = \left\{x \in \mathbb{R} \mid a \leq x < b\right\}$    |  |
| d) $]a, b] = \left\{x \in \mathbb{R} \mid a < x \leq b\right\}$    |  |
| e) $] -\infty, a] = \left\{x \in \mathbb{R} \mid x \leq a\right\}$ |  |
| f) $] -\infty, a[ = \left\{x \in \mathbb{R} \mid x < a\right\}$    |  |
| g) $[a, +\infty[ = \left\{x \in \mathbb{R} \mid x \geq a\right\}$  |  |
| h) $]a, +\infty[ = \left\{x \in \mathbb{R} \mid x > a\right\}$     |  |

3) Determine  $A \cup B$ ,  $A \cap B$ ,  $A - B$  e  $B - A$ .

- a)  $A = \{x \in \mathbb{R} \mid -3 \leq x < 2\}$  e  $B = \{x \in \mathbb{R} \mid x < 1\}$ .

b)  $A = ]-2,3]$  e  $B = C = ]-1,2]$ .

c)  $A = ]-\infty,1]$  e  $B = C = ]2,3]$ .

d)  $A = ]-2,3[$  e  $B = C = [-3,1[$ .

4) Sejam os conjuntos  $A = \{x \in \mathbb{R} / -4 \leq x < 4\}$ ,  $B = \{x \in \mathbb{R} / x < 2\}$  e  $C = \{x \in \mathbb{R} / x \geq 3\}$ .  
Determine  $(B - A) \cap (A - C)$ .