

Respostas e Resolução dos Exercícios Extras da Unidade I.



EXERCÍCIOS – Conjuntos Numéricos Fundamentais e Intervalos.

Ir em $\mathbb{I} \rightarrow$ Irracionais são dízimas não periódicas

1. Relacione usando \in ou \notin : \in pertence, \notin não pertence

a) $-5 \notin \mathbb{N}$

e) $\frac{4}{11} \notin \mathbb{R} - \mathbb{Q} = \mathbb{I}$
 $\rightarrow 0,3636... = 0,\overline{36}$

i) $-1 \in \mathbb{R}$

n) $\sqrt{361} \notin \mathbb{I}$

b) $\frac{2}{3} \notin \mathbb{Z}$

f) $\sqrt{-9} \notin \mathbb{R}$
 \rightarrow é no complexo

j) $\frac{108}{9} \in \mathbb{N}$

o) $(2,33... \times 9) \notin \mathbb{N}$

c) $\sqrt{5} \in \mathbb{R}$

g) $-13 \in \mathbb{Q}$

l) $0 \in \mathbb{Z}_+$
 \rightarrow positivo

p) $\frac{\sqrt[3]{-64}}{2} \notin \mathbb{Z}$

d) $4 \in \mathbb{Q}$

h) $\sqrt{0} \in \mathbb{R}$
 $= 0$

m) $-\frac{4}{2} \in \mathbb{Q}^*$
 $\neq 0$ zero

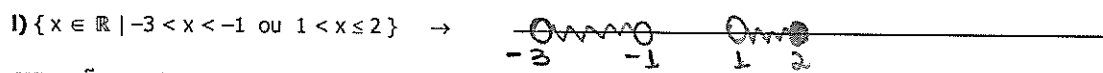
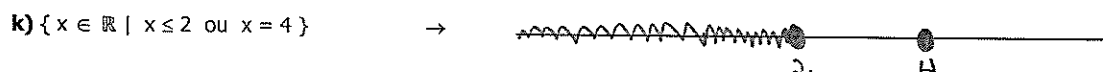
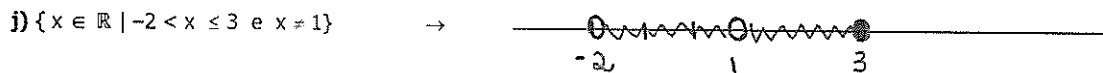
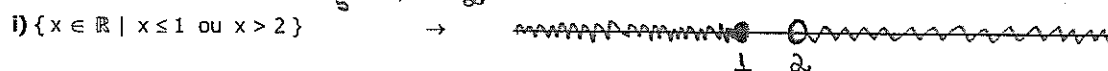
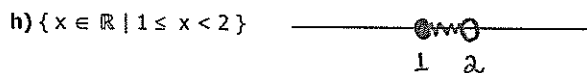
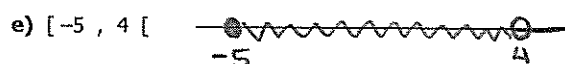
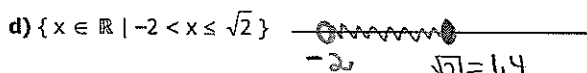
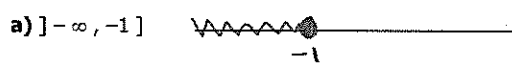
q) $0,127 \in \mathbb{Q}^*$
 $\rightarrow \frac{127}{1000}$

2. Os conjuntos $A = \{x \in \mathbb{N} \mid 2 \leq x < 4\}$ e $B = \{x \in \mathbb{R} \mid x^2 - 5x + 6 = 0\}$ são iguais?



Por Bháskara: $a=1, b=-5, c=6$
 $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
 $x = \frac{-(-5) \pm \sqrt{(-5)^2 - 4 \cdot 1 \cdot 6}}{2 \cdot 1}$
 $\Rightarrow x = \frac{5 \pm \sqrt{25 - 24}}{2}$
 $\rightarrow x = \frac{5 \pm 1}{2} \rightarrow x_1 = 3, x_2 = 2$

3. Represente em cada reta real os intervalos correspondentes:



ATENÇÃO: analise os intervalos (h) e (i) e note que eles são completamente diferentes.

Ⓞ continua $B = \{x \in \mathbb{R} \mid x^2 - 5x + 6 = 0\}$
 $\begin{cases} a=1 > 0 \text{ concavidade } \cup \\ b=-5 \\ c=6 \end{cases}$



Como podemos perceber no conjunto A só entram os pontos $A = \{2, 3\}$ e no conjunto $B =]-\infty, 2] \cup [3, +\infty[$. Logo os dois conjuntos não são iguais.

