


APPUNTI DI ANALISI

24 Settembre



1.1

$$\textcircled{1} \quad E = \{x \in \mathbb{R} \mid x^2 \geq 1\} = (-\infty; -1] \cup [1; +\infty) \Rightarrow \nexists \text{Sup}(E), \text{Inf}(E)$$

$$\textcircled{2} \quad E = \left\{x \in \mathbb{R} \mid \frac{x-1}{x-2} \leq 0\right\} = [1; 2) \Rightarrow \text{Sup}(E) = 2, \text{Inf}(E) = 1 = \min(E)$$

LIMITATO INF.

$$\textcircled{3} \quad E = \left\{x = n - \frac{1}{n}, n \in \mathbb{N} - \{0\}\right\} \Rightarrow \text{Inf}(E) = \min(E) = 0, \text{ non } \acute{\text{e}} \text{ superiormente limitato}$$

LIMITATO INFERIORMENTE

$\hookrightarrow \forall M > 0, \exists \bar{x} \in \mathbb{N} - \{0\} \mid \bar{x} > M$

$$\frac{\bar{n}^2 - 1}{n} > M \quad \frac{n^2 - M n - 1}{n} > 0$$

$$\bar{n} = \frac{M \pm \sqrt{M^2 + 4}}{2}$$

$$\hookrightarrow \bar{n} > \frac{M + \sqrt{M^2 + 4}}{2}$$