ESEMPIO

\[ \sqrt{x+4} \geq x + 1 \]

\[ A(x) \quad B(x) \]

\[ \begin{cases} 9 + x^2 \geq 0 & \text{U} & 9 + x^2 \geq (x+1)^2 \\ x+1 \leq 0 & \text{U} & x+1 \geq 0 \\ \forall x \in \mathbb{R} & \text{U} & 9 + x^2 \geq x^2 + 1 + 2x \\ x \leq -1 & \text{U} & x \geq -1 \\ \forall x \in \mathbb{R} & \text{U} & x \leq 4 \\ x \leq -1 & \text{U} & x \geq -1 \end{cases} \]

\[ x^2 + 9 \geq 0 \quad x^2 + 9 = 0 \quad x^2 = -9 \quad \text{ma non possibile} \]

\[ + \quad + \quad + \quad \rightarrow \]

\[ \forall x \in \mathbb{R} \\ x \leq -1 \]

\[ \text{U} \quad x \in \mathbb{R} \quad x \geq -1 \]

\[ x \leq 4 \]

\[ -1 \]

\[ 4 \]

\[ x \leq 4 \]
ESEMPIO

\[ \sqrt{x+3} > 3 \]

E.E. \[
\begin{cases} 
    x+3 \geq 0 \\
    x+3 \geq 9
\end{cases}
\] \[
\begin{cases} 
    x \geq -3 \\
    x \geq 6
\end{cases}
\]

\[ x \geq -3 \]
\[ x \geq 6 \]

\[ \sqrt{a(x)} - \sqrt{b(x)} \]

ESEMPIO

\[ \sqrt{x+1} \leq 1-x \]

E.E. \[
\begin{cases} 
    x+1 \geq 0 \\
    1-x > 0 \\
    x+1 \leq (1-x)^2
\end{cases}
\] \[
\begin{cases} 
    x \geq -1 \\
    x < 1 \\
    x^2 - 3x > 0
\end{cases}
\]

\[ x \geq -1 \]
\[ x < 1 \]
\[ x^2 - 3x > 0 \]

\[ -1 \leq x < 0 \]