

EQUAZIONI IRRAZIONALI

①

$$\sqrt[n]{f(x)} = a \begin{cases} n - \text{DISPARI} \rightarrow f(x) = a^n \\ n - \text{PARI} \rightarrow f(x) = a^n \end{cases} \quad \text{es. } \sqrt[3]{1-x} = 3 \quad 1-x = 3^3$$

$a < 0$ NO SOLUZIONI

$a = 0 \quad f(x) = 0$

$a > 0 \quad f(x) = a^n$

②

$$\sqrt[n]{f(x)} = g(x) \begin{cases} n - \text{DISPARI} & f(x) = g(x)^n \\ n - \text{PARI} & f(x) = [g(x)]^n \rightarrow \begin{cases} g(x) \geq 0 \\ f(x) = [g(x)]^n \end{cases} \end{cases}$$

③

$$\sqrt[n]{f(x)} = \sqrt[n]{g(x)} \begin{cases} n - \text{DISPARI} & f(x) = g(x) \\ n - \text{PARI} & \begin{cases} f(x) \geq 0 \\ f(x) = g(x) \end{cases} \end{cases} \quad \text{es. } \sqrt[3]{1-x^2} = \sqrt[3]{2x^2+5x-1}$$

oppure $\begin{cases} g(x) \geq 0 \\ f(x) = g(x) \end{cases} \quad 1-x^2 = 2x^2+5x-1$

$$3x^2 + 5x - 2 = 0$$

$$x_{1,2} = \frac{-5 \pm \sqrt{25+24}}{6}$$

$$= \frac{-5 \pm 7}{6} \begin{matrix} \frac{1}{3} \\ -2 \end{matrix}$$