

PAG. 63 N 718

$$\sqrt{\frac{x-1}{2x+1}} = \frac{1}{2}$$

$$\left\{ \begin{array}{l} \frac{1}{2} \geq 0 \cdot x \Rightarrow \forall x \in \mathbb{R} \\ \frac{x-1}{2x+1} = \frac{1}{4} \end{array} \right.$$

$$\frac{x-1}{2x+1} = \frac{1}{4}$$

C.E. $x \neq -\frac{1}{2}$

$$4x - 4 = 2x + 1$$

$$2x = 5 \quad \boxed{x = \frac{5}{2}}$$

GENERALIZZAZIONE IMPORTANTE

$$\sqrt[n]{f(x)} = g(x) \quad n \text{ PARI} \Rightarrow \begin{cases} g(x) \geq 0 \\ f(x) = g^n(x) \end{cases}$$

$$\sqrt[n]{f(x)} = g(x) \quad n \text{ DISPARI} \Rightarrow f(x) = g^n(x)$$

PAC. 64 N 736

$$(a+b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$$

C.E. $x \neq 0$

$$\frac{\sqrt[3]{x^3 - 2} + 2}{x} = 1$$

$$\sqrt[3]{x^3 - 2} + 2 = x$$

$$\sqrt[3]{x^3 - 2} = x - 2$$

$$x^3 - 2 = (x - 2)^3$$

$$\cancel{x^3} - 2 = \cancel{x^3} - 6x^2 + 12x - 8$$

$$6x^2 - 12x + 6 = 0$$

$$x^2 - 2x + 1 = 0$$

$$(x - 1)^2 = 0$$

$$\boxed{x = 1}$$

$$\sqrt{x^2} = |x|$$

$$\sqrt{(-5)^2} = |-5|$$

$$(x-1)^2 = 4$$

\Downarrow

$$\sqrt{(x-1)^2} = \sqrt{4}$$

\Downarrow

$$|x-1| = 2$$

$$x-1=2$$

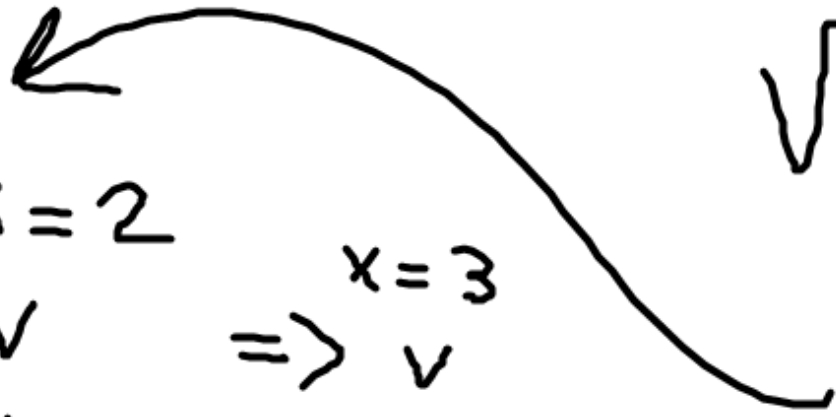
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$$x-1=-2$$

$$x=3$$

$\Rightarrow \vee$

$$x=-1$$



PAG. 65 N 746

$$\sqrt{f(x)} = \sqrt{g(x)}$$

$$\sqrt{3x^2 - 2x + 1} = \sqrt{3x - 1}$$

$$\left\{ \begin{array}{l} \cancel{3x^2 - 2x + 1 \geq 0} \\ 3x - 1 \geq 0 \\ 3x^2 - 2x + 1 = 3x - 1 \end{array} \right.$$

$$\left\{ \begin{array}{l} x \geq \frac{1}{3} \\ 3x^2 - 5x + 2 = 0 \end{array} \right.$$

$$\Delta = 25 - 24 = 1$$

$$x = \frac{5 \pm 1}{6} = \begin{cases} \frac{2}{3} \\ 1 \end{cases}$$

$$\boxed{x = 1 \vee x = \frac{2}{3}}$$