$$f: x \in \boxed{A} \longrightarrow \exists! \, y \in \boxed{B}$$

Dominio   Codominio

$$f: x \in \mathbb{R} \longrightarrow 3x + 1 \in \mathbb{R}$$

$$\boxed{y = 3x + 1}$$

FUNZIONI

ALGEBRICHE

RAZIONALI

IRRAZIONALI

INTERE FRATTE

$$y = x^2 - 3x + 1 \qquad y = \frac{x-1}{x-3}$$

$D: \forall x \in \mathbb{R}$ D: denom. $\neq 0$

      $x - 3 \neq 0$

      $x \neq 3$ risolve

$$D: \forall x \in \mathbb{R} - \{3\}$$

INTERE

indice pari

$$y = \sqrt{x-3}$$

D: radicando ≥ 0

 $x - 3 \geq 0$

 $x \geq 3$

$$D: \forall x \in [3; +\infty[$$

indice dispari

$$y = \sqrt[3]{x-3}$$

$$D: \forall x \in \mathbb{R}$$

FRATTE

$[\;\;]$ chiuse
estremi $\in$ intervallo

$]\;\;[$ aperte
estremi $\notin$ intervallo

sull' ∞ la parentesi
è sempre aperta

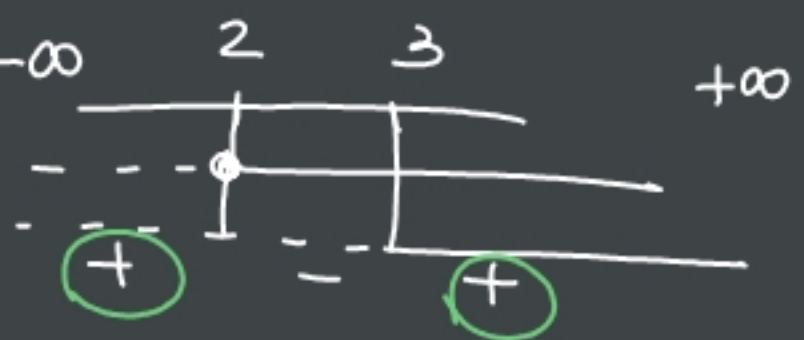$$\underset{-}{\underline{\qquad\quad \overset{3}{\bullet} \qquad\qquad \overset{+\infty}{} \qquad}}$$

$$\forall x \in [3; +\infty[$$

IRR. FRATTE

inolia pazi

1) $y = \sqrt{\dfrac{x-2}{x-3}}$

$D: \begin{cases} \dfrac{x-2}{x-3} \boxed{\geq} 0 \\ x-3 \cancel{\neq 0} \end{cases}$ $\begin{bmatrix} x-2 \geq 0 \\ x-3 > 0 \end{bmatrix}$ $\begin{bmatrix} x \geq 2 \\ x > 3 \end{bmatrix}$

$\forall x \in \left]-\infty ; 2\right] \cup \left]3 ; +\infty\right[$

2) $y = \sqrt{\dfrac{x-2}{x-3}}$

$D: \begin{cases} x-2 \geq 0 \\ x-3 \neq 0 \end{cases}$ $\begin{cases} x \geq 2 \\ x \neq 3 \end{cases}$

$D: \forall x \in \left[2 ; +\infty\right[- \{3\}$

$D: \forall x \in \left[2 ; 3\right[\cup \left]3 ; +\infty\right[$

3) $y = \dfrac{x-2}{\sqrt{x-3}}$

$D: \qquad x-3 \cancel{\geq 0} \qquad x-3 > 0$

$\cancel{x-3 \neq 0} \qquad x > 3$

$\forall x \in \left]3 ; +\infty\right[$

1) $y = 2x^3 - 5x$

2) $y = \dfrac{x-5}{x^2 - 3x + 2}$

3) $y = \sqrt{\dfrac{x+2}{x-4}}$

4) $y = \dfrac{\sqrt{x^2 - 9}}{x - 5}$

5) $y = \dfrac{x-1}{\sqrt{x^2 - 3x}}$