

Soluciones de dominios de funciones irracionales

Ejercicio 3 resuelto

Calcular el dominio de las funciones radicales:

$$1 \quad f(x) = \sqrt[3]{x^2 - 5x + 6}$$

$$D = \mathbb{R}$$

$$2 \quad f(x) = \sqrt[3]{\frac{3x+2}{x+1}}$$

$$D = \mathbb{R} - \{-1\}$$

$$3 \quad f(x) = \sqrt[3]{\frac{x}{x^2 - 5x + 6}}$$

$$D = \mathbb{R} - \{2, 3\}$$

Ejercicio 4 resuelto

Calcular el dominio de las funciones radicales:

$$1 \quad f(x) = \sqrt{x-2}$$

$$x - 2 \geq 0 \quad D = [2, \infty)$$

$$2 \quad f(x) = \sqrt{-x+2}$$

$$-x + 2 \geq 0 \quad D = (-\infty, 2]$$

$$\boxed{3} \quad f(x) = \sqrt{x^2 - 6x + 8}$$

$$x^2 - 6x + 8 \geq 0 \quad D = (-\infty, 2] \cup [4, \infty)$$

$$\boxed{4} \quad f(x) = \sqrt{-x^2 + 6x - 8}$$

$$-x^2 + 6x - 8 \geq 0 \quad D = [2, 4]$$

$$\boxed{5} \quad f(x) = \sqrt{x^2 + 4x + 4}$$

$$(x + 2)^2 \geq 0 \quad D = \mathbb{R}$$

$$\boxed{6} \quad f(x) = \sqrt{x^2 + x + 4}$$

$$x^2 + x + 4 \geq 0 \quad D = \mathbb{R}$$

$$\boxed{7} \quad f(x) = \sqrt{-x^2 - 4x - 4}$$

$$-(x + 2)^2 \geq 0 \quad D = -2$$

$$\boxed{8} \quad f(x) = \sqrt{x^2 - 5x + 6}$$

$$x^2 - 5x + 6 \geq 0 \quad D = (-\infty, 2] \cup [3, \infty)$$

$$\boxed{9} \quad f(x) = \sqrt{x^3 - 4x^2 + 3x}$$

$$x(x^2 - 4x + 3) \geq 0 \quad x(x - 1)(x - 3) \geq 0$$

$$D = [0, 1] \cup [3, \infty)$$

$$10 \quad f(x) = \frac{x-5}{\sqrt{x-2}}$$

$$x-2 > 0 \quad D = (2, \infty)$$

$$11 \quad f(x) = \frac{\sqrt{x-2}}{x-5}$$

$$\begin{cases} x-5 \neq 0 & D = \mathbb{R} - \{5\} \\ x-2 \geq 0 & D = [2, \infty) \end{cases}$$

$$D = [2, 5) \cup (5, \infty)$$

$$12 \quad f(x) = \frac{\sqrt{x^2 - 5x + 6}}{x+4}$$

$$\begin{cases} x^2 - 5x + 6 \geq 0 & (-\infty, 2] \cup [3, \infty) \\ x+4 \neq 0 & x \neq -4 \end{cases}$$

$$D = (-\infty, -4) \cup (-4, 2] \cup [3, \infty)$$

$$13 \quad f(x) = \frac{x+4}{\sqrt{x^2 - 5x + 6}}$$

$$x^2 - 5x + 6 > 0 \quad D = (-\infty, 2) \cup (3, \infty)$$

$$14 \quad f(x) = \sqrt{\frac{x+4}{x^2 - 5x + 6}}$$

$$\frac{x+4}{x^2 - 5x + 6} \geq 0 \quad D = [-4, 2) \cup (3, \infty)$$



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