# Definitionsbereich - Lösungen

1.) $f(x) = \frac{2x+3}{x^2-9}$

→ Nenner = 0 lösen

$$x^2 - 9 = 0 \quad | +9$$
$$x^2 = 9 \quad | \sqrt{\ }$$
$$x_1 = -3$$
$$x_2 = 3 \quad \rightarrow \mathbb{D} = \mathbb{R} \setminus \{-3; 3\}$$

2.) $g(x) = \sqrt{2x-4}$

→ Diskriminante ≥ 0 lösen

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

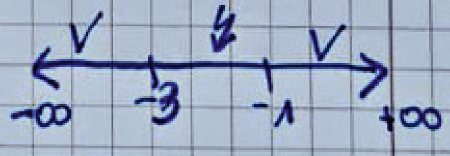
3.) $h(x) = \ln(x^2 + 4x + 3)$

→ Argument > 0 lösen

$$x^2 + 4x + 3 > 0 \quad | pq \text{ mit } p = 4 \text{ und } q = 3$$

$$x_{1/2} = -\frac{4}{2} \pm \sqrt{\left(\frac{4}{2}\right)^2 - 3}$$
$$= -2 \pm \sqrt{2^2 - 3}$$
$$= -2 \pm \sqrt{4-3}$$
$$= -2 \pm \sqrt{1}$$
$$= -2 \pm 1$$

$$\left.\begin{array}{l} x_1 = -2 - 1 = -3 \\ x_2 = -2 + 1 = -1 \end{array}\right\}$$




$\rightarrow \mathbb{D} = x \in (-\infty; -3) \cup (-1; +\infty)$