

Annexe syllabus

Exercices sur les domaines (4^{ème})

Imposer les conditions d'existence et donner le domaine

ENONCES

$$\begin{aligned} f(x) &= -12 & f(x) &= 2x + 3 & f(x) &= x^2 + 5x - 1 & f(x) &= 3x^8 - 5x^2 + 1 \\ f(x) &= \frac{1-2x}{x-1} & f(x) &= \frac{3x}{x^2-4x+4} & f(x) &= \sqrt{5-2x} & f(x) &= \sqrt{4x^2-1} & f(x) &= \sqrt{x^2+10x+9} \\ f(x) &= \sqrt{x^2+6x+9} & f(x) &= \sqrt{x^2} & f(x) &= \frac{2x}{\sqrt{-x^2+x-2}} & f(x) &= \sqrt[3]{3x+4} & f(x) &= |2-9x| \\ f(x) &= \frac{\sqrt{x+5}}{4x^2} & f(x) &= \frac{\sqrt{3x-1}}{\sqrt{1-2x}} & f(x) &= \sqrt{\frac{4x}{9+x^2}} & f(x) &= \frac{1}{\sin x} \\ f(x) &= \sqrt{8x+5} & f(x) &= \sqrt{-2x^2-9x+5} \\ f(x) &= \frac{5}{\sqrt{9-5x}} & f(x) &= \frac{\sqrt{-x+1}}{\sqrt{x^3+4x}} \\ f(x) &= \frac{\sqrt{x+1}}{4x} & f(x) &= \sqrt{2x^2+8} \\ f(x) &= \sqrt{\frac{2-x}{x-3}} & f(x) &= \frac{\sqrt{-x}}{2x+5} \\ f(x) &= \frac{\sqrt{x^2-9}}{\sqrt{x^2+9}} & f(x) &= \frac{\sqrt{x^2-4}}{(x-5)\sqrt{1-x}} \end{aligned}$$

Solutions

$$\begin{aligned} f(x) &= -12 & f(x) &= 2x + 3 & f(x) &= x^2 + 5x - 1 & f(x) &= 3x^8 - 5x^2 + 1 \\ D &= \mathbb{R} & D &= \mathbb{R} & D &= \mathbb{R} & D &= \mathbb{R} \\ f(x) &= \frac{1-2x}{x-1} & f(x) &= \frac{3x}{x^2-4x+4} & f(x) &= \sqrt{5-2x} & f(x) &= \sqrt{4x^2-1} & f(x) &= \sqrt{x^2+10x+9} \\ D &= \mathbb{R}/\{1\} & D &= \mathbb{R}/\{2\} & D &=]-\infty, \frac{5}{2}] & D &=]-\infty, -\frac{1}{2}] \cup [\frac{1}{2}, +\infty[& D &=]-\infty, -9] \cup [-1, +\infty[\\ f(x) &= \sqrt{x^2+6x+9} & f(x) &= \sqrt{x^2} & f(x) &= \frac{2x}{\sqrt{-x^2+x-2}} & f(x) &= \sqrt[3]{3x+4} & f(x) &= |2-9x| \\ D &= \mathbb{R} & D &= \mathbb{R} & D &= \emptyset & D &= \mathbb{R} & D &= \mathbb{R} \\ f(x) &= \frac{\sqrt{x+5}}{4x^2} & f(x) &= \frac{\sqrt{3x-1}}{\sqrt{1-2x}} & f(x) &= \sqrt{\frac{4x}{9+x^2}} & f(x) &= \frac{1}{\sin x} \\ D &= [-5, 0[\cup]0, +\infty[& D &= [\frac{1}{3}, \frac{1}{2}[& D &= [0, +\infty[& D &= \mathbb{R}/\{k\pi\} \end{aligned}$$

$$f(x) = \sqrt{8x+5} \quad D = [-\frac{5}{8}, +\infty[$$

$$f(x) = \frac{5}{\sqrt{9-5x}} \quad D =]-\infty, \frac{9}{5}[$$

$$f(x) = \frac{\sqrt{x+1}}{4x} \quad D = [-1, 0[\cup]0, +\infty[$$

$$f(x) = \sqrt{\frac{2-x}{x-3}} \quad D = [2, 3[$$

$$f(x) = \frac{\sqrt{x^2-9}}{\sqrt{x^2+9}} \quad D =]-\infty, -3] \cup [3, +\infty[$$

$$f(x) = \sqrt{-2x^2-9x+5} \quad D = [-5, \frac{1}{2}]$$

$$f(x) = \frac{\sqrt{-x+1}}{\sqrt{x^3+4x}} \quad D =]0, 1]$$

$$f(x) = \sqrt{2x^2+8} \quad D = \mathbb{R}$$

$$f(x) = \frac{\sqrt{-x}}{2x+5} \quad D =]-\infty, -\frac{5}{2}[\cup]-\frac{5}{2}, 0]$$

$$f(x) = \frac{\sqrt{x^2-4}}{(x-5)\sqrt{1-x}} \quad D =]-\infty, -2]$$