

Esercizi sul dominio di funzioni - Parte II

Pierluigi Vellucci

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Studiare il dominio delle seguenti funzioni.

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| 1) $y = \arctan\left(\frac{x^2}{3} - \frac{3}{2}x\right)$ | sol : $D = \mathbb{R}$ |
| 2) $y = \sqrt{e^{2x} - e^x}$ | sol : $D = [0, +\infty)$ |
| 3) $y = \frac{x^3(x^3 - 8)^{1/3}}{\pi + \ln(x^2 + 1) }$ | sol : $D = \mathbb{R}$ |
| 4) $y = \ln(8 - x^3)$ | sol : $D = (-\infty, 2)$ |
| 5) $y = 2 \arcsin(x^2 - 3)$ | sol : $D = [-2, -\sqrt{2}] \cup [\sqrt{2}, 2]$ |
| 6) $y = \pi \arccos(3x + 2)$ | sol : $D = \left[-1, -\frac{1}{3}\right]$ |
| 7) $y = \frac{1}{x^2 + 1} \arcsin(\sqrt{x^3 - 2})$ | sol : $D = \left[\sqrt[3]{2}, \sqrt[3]{3}\right]$ |
| 8) $y = \frac{1}{e^x + 1} \arccos(\sqrt{x^3 - 1})$ | sol : $D = \left[1, \sqrt[3]{2}\right]$ |
| 9) $y = \ln\left(\frac{x^2 + 2x + 1}{1 + \sin^2 x}\right)$ | sol : $D = \mathbb{R} - \{-1\}$ |
| 10) $y = \frac{1}{\sqrt[4]{e^{2x} + e^{-2x} - 2}}$ | sol : $D = \mathbb{R} - \{0\}$ |
| 11) $y = \sqrt{\sqrt{x} - \sqrt{x - 2}}$ | sol : $D = [2, +\infty)$ |
| 12) $y = e^{\frac{x+3}{x^2-4}} + \ln x$ | sol : $D = (0, 2) \cup (2, +\infty)$ |
| 13) $y = \sqrt{\arctan(\sqrt{x^2 - 1} - 1)}$ | sol : $D = (-\infty, -\sqrt{2}] \cup [\sqrt{2}, +\infty)$ |
| 14) $y = x ^{x^2} + \cos x + x^2$ | sol : $D = \mathbb{R} - \{0\}$ |
| 15) $y = x ^{\tan x} + \sqrt{\frac{\pi}{2}x - x^2}$ | sol : $D = \left(0, \frac{\pi}{2}\right)$ |
| 16) $y = \log_x(3 - x - x - 2)$ | sol : $D = (0, 1) \cup \left(1, \frac{5}{2}\right)$ |

$$17) y = \log_{2x} (1 + \sqrt{x-2})$$

$$\text{sol: } D = [2, +\infty)$$

$$18) y = \log_{x^2-1} (1 + \sqrt{x-3})$$

$$\text{sol: } D = [3, +\infty)$$

$$19) y = \sqrt{\arcsin(1-x^2)}$$

$$\text{sol: } D = [-1, 1]$$

$$20) y = \log_2 \log_3 (e^{2x} + e^{-2x} - 1)$$

$$\text{sol: } D = \mathbb{R} - \{0\}$$

$$21) y = \left(\arccos x - \frac{\pi}{2} \right)^{\ln(-1-2x)}$$

$$\text{sol: } D = \left(-1, -\frac{1}{2} \right)$$