# Logaritmi: domini di funzioni logaritmiche

PASSED

trovare il dominio delle seguenti funzioni logaritmiche

| | | |
|---|---|---|
| 1 | $y = log\, x$ | $x > 0$ |
| 2 | $y = log\, x - 5$ | $x > 0$ |
| 3 | $y = log(x - 5)$ | $x > 5$ |
| 4 | $y = log(3 - x)$ | $x < 3$ |
| 5 | $y = log\, 3 - x$ | $R$ |
| 6 | $y = ln\left(\frac{2}{3} + 5x\right)$ | $x > -\frac{2}{15}$ |
| 7 | $y = log_{\frac{1}{3}} x$ | $x > 0$ |
| 8 | $y = 2 - log(4 - x)$ | $x < 4$ |
| 9 | $y = 1 - log\, x$ | $x > 0$ |
| 10 | $y = log_5 x^2$ | $x \neq 0$ |

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| 11 | $y = log\sqrt{x}$ | $x > 0$ |
| 12 | $y = ln\sqrt[3]{x^2}$ | $x \neq 0$ |
| 13 | $y = log_2 3^x$ | $R$ |
| 14 | $y = log_{\frac{1}{2}}\|x\|$ | $x \neq 0$ |
| 15 | $y = log(x^3 - 8)$ | $x > 2$ |
| 16 | $y = log_2(x^2 - 4)$ | $x < -2;\ x > 2$ |
| 17 | $y = log_{\frac{1}{2}}(3 - x^2)$ | $-\sqrt{3} < x < \sqrt{3}$ |
| 18 | $y = ln(x^2 + 2)$ | $R$ |
| 19 | $y = log(x^2 + 2x)$ | $x < -2 \vee x > 0$ |
| 20 | $y = log(3x^2 - 4x - 7)$ | $x < -1 \vee x > \frac{7}{3}$ |
| 21 | $y = log\sqrt[3]{x^2 - x - 2}$ | $x < -1 \vee x > 2$ |

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| 22 | $y = log[x(3-x)] + 4$ | $0 < x < 3$ |
| 23 | $y = log_{\frac{1}{2}}^{2}(x-3) + log_{\frac{1}{2}} x - 2$ | $x > 3$ |
| 24 | $y = log_3(x+2) - 2\,log_3(x-2)$ | $x > 2$ |
| 25 | $y = log_4(x-1) + 3\,log_4(2-x)$ | $1 < x < 2$ |
| 26 | $y = log(3x-1) + 2log(x+1)$ | $x > \frac{1}{3}$ |
| 27 | $y = log\left(\sqrt{x}+1\right) + 5\,log\,x$ | $x > 0$ |
| 28 | $y = 1 - \frac{2}{log_2 x}$ | $x > 0 \wedge x \neq 1$ |
| 29 | $y = log_2 \frac{x-4}{x+1}$ | $x < -1 \vee x > 4$ |
| 30 | $y = log \frac{1}{x^2+1}$ | $R$ |
| 31 | $y = log \frac{2+x}{2-x}$ | $-2 < x < 2$ |

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| 32 | $y = \frac{log\ (1+x)}{x-1}$ | $-1 < x < 1 \vee x > 1$ |
| 33 | $y = log\frac{1}{x^2-1}$ | $x < -1 \vee x > 1$ |
| 34 | $y = \frac{ln(x+2)}{ln(x-3)}$ | $x > 3 \wedge x \neq 4$ |
| 35 | $y = \frac{log_2 5x}{log_3 \sqrt{x-3}}$ | $x > 3 \wedge x \neq 4$ |
| 36 | $y = \frac{3x}{2\,ln\,x - 1}$ | $x > 0 \wedge x \neq \sqrt{2}$ |
| 37 | $y = log\frac{x}{\sqrt{x-3}}$ | $x > 3$ |
| 38 | $y = \frac{x+1}{log_2 x^2 - 1}$ | $x \neq 0 \wedge x \neq \pm\sqrt{2}$ |
| 39 | $y = log\sqrt{log\,x} + log_2(2-x)$ | $1 < x < 2$ |
| 40 | $y = log\sqrt{(x^2+1)(x^2-x+1)}$ | $R$ |
| 41 | $y = log(4x^3 + 48x - 10x^2) + log(x-2)$ | $x > 2$ |

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| 42 | $y = log_3(x-1) + log_{\frac{1}{3}}(x^3 - 6x^2 + 8x)$ | $1 < x < 2 \vee x > 4$ |
| 43 | $y = \frac{ln\, x}{ln\sqrt{x-1}}$ | $x > 1 \wedge x \neq 2$ |
| 44 | $y = \sqrt{log\frac{x}{x-5}}$ | $x > 5$ |
| 45 | $y = ln(3^{x-2} - 81)$ | $x > 6$ |
| 46 | $y = log(2^{2x} - 2) + log(2^x - 4)$ | $x > 2$ |
| 47 | $y = log_x 2$ | $x > 0 \wedge x \neq 1$ |
| 48 | $y = log_{x-1} 2 - x$ | $1 < x < 2$ |
| 49 | $y = log_{\sqrt{x}-2} 3 + \sqrt{x}$ | $x > 4 \wedge x \neq 9$ |
| 50 | $y = log_{x^2-2x+1} 4$ | $x \neq \{0;\ 1;\ 2\}$ |
| | esercizi più impegnativi | |
| 51 | $y = log\, log_2(x^2 - 3x + 3)$ | $x < 1 \vee x > 2$ |
| 52 | $y = log_2\, log_3\, log_4\, x$ | $x > 4$ |

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| 53 | $y = \dfrac{log(x^2+3x)-1}{log(11-2x)-log\,x}$ | $0 < x < \dfrac{11}{2} \ \wedge \ x \neq \dfrac{11}{3}$ |
| 54 | $y = \dfrac{ln\left(x-\sqrt{x^2-x}\right)}{ln(x-3)} + ln\dfrac{x-3}{x+2}$ | $x > 3 \wedge x \neq 4$ |
| 55 | $y = \dfrac{1}{log_2\, log_3(x-1)} + log_2\left(2^{\sqrt{x^2-4}}\right)$ | $x > 2$ |
| 56 | $y = \sqrt{\dfrac{3^x-2}{log_3\, x}} - \dfrac{\sqrt{log_{\frac{1}{3}}\lvert x\rvert}}{log_2(3-2x)}$ | $0 < x \leq log_3\, 2$ |
| 57 | $y = log\left(\sqrt{x}-1\right) + log(4-\lvert x\rvert) + 3x$ | $1 < x < 4$ |
| 58 | $y = \dfrac{\left\lvert\, log_5\left\lvert\sqrt[5]{x^2-1}\right\rvert\,\right\rvert + 2x}{\lvert x\rvert}$ | $x \neq \{-1;\ 0;\ 1\}$ |
| 59 | $y = ln\left(\sqrt[3]{x^3-x} - \lvert x\rvert\right)$ | $-\dfrac{\sqrt{2}}{2} < x < 0$ |
| 60 | $y = log(4-\lvert x\rvert) + log\lvert x^2-1\rvert$ | $-4 < x < 4 \ \wedge \ x \neq \pm 1$ |
| 61 | $y = log_3\left(\sqrt[3]{\lvert x+8\rvert} - 1\right)$ | $x < -9 \ \vee \ x > -7$ |
| 62 | $y = log\left(\left\lvert\dfrac{2x-6}{3}\right\rvert - 4\right)$ | $x < -3 \ \vee \ x > 9$ |
| 63 | $y = \dfrac{1}{\sqrt{log\, x^2+2}} + \dfrac{x}{\lvert 1-log\, x\rvert}$ | $x > \dfrac{1}{10} \ \wedge \ x \neq 10$ |

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| 64 | $y = ln\, x + \frac{ln\lvert x\rvert}{\lvert ln\, x\rvert} + ln^2 x + \lvert 1 - ln\, x\rvert$ | $x > 0 \wedge x \neq 1$ |
| 65 | $y = log_6\, log_{\frac{1}{3}}\, x^2 + \frac{\sqrt{9^x - 3}}{log_3 \sqrt{\lvert x\rvert}}$ | $\frac{1}{2} \leq x < 1$ |
| 66 | $y = ln(\lvert x + 1\rvert - \lvert x - 1\rvert) + \sqrt{\frac{ln\, x}{ln\, x - 1}}$ | $0 < x \leq 1 \vee x > e$ |