# Calcolo del domino di una funzione

## indice





Gli esercizi sono proposti in ordine di difficoltà crescente.

nota: in un file così lungo e complesso può accadere che sia presente un errore di diversa natura nonostante gli esercizi siano stati controllati più volte. Saremo grati di ricevere segnalazioni di eventuali refusi o suggerimenti di qualsiasi natura.

Nelle soluzioni degli esercizi goniometrici la lettera $\boldsymbol{k}$ rappresenta un numero intero cioè $k \in Z$ tranne ove diversamente specificato

# Calcolo di domini

PASSED

## funzioni algebriche

| | | |
|---|---|---|
| 1 | $y = x^3 - 2x^2 - 3x$ | $R$ |
| 2 | $y = \frac{3x + 1}{2}$ | $R$ |
| 3 | $y = \frac{8x - 5}{x}$ | $x \neq 0$ |
| 4 | $y = \frac{5}{2x + 3}$ | $x \neq -\frac{3}{2}$ |
| 5 | $y = \frac{2 - 4x + x^3}{5 - x}$ | $x \neq 5$ |
| 6 | $y = 2x^8 + 52x^2 + 6$ | $R$ |
| 7 | $y = \frac{3x^5 - 4x^4 + 3x^2 - 6}{x^2 + 5}$ | $R$ |
| 8 | $y = \frac{3x^2 + 2}{2x - 3}$ | $x \neq \frac{3}{2}$ |
| 9 | $y = \frac{x^2 + 5}{x^3}$ | $x \neq 0$ |
| 10 | $y = 3x^3 - 5x^2 + 1$ | $R$ |

| | | |
|---|---|---|
| 11 | $y = \frac{3}{x-1}$ | $x \neq 1$ |
| 12 | $y = \frac{1}{x^2}$ | $x \neq 0$ |
| 13 | $y = \frac{3x+1}{2x-1}$ | $x \neq \frac{1}{2}$ |
| 14 | $y = \frac{x^2+x-1}{x+2}$ | $x \neq -2$ |
| 15 | $y = x^3 - \frac{x}{2} + 1$ | $R$ |
| 16 | $y = \sqrt{x+3}$ | $x \geq -3$ |
| 17 | $y = \sqrt{x-1}$ | $x \geq 1$ |
| 18 | $y = \sqrt[3]{x^2-2x+6}$ | $R$ |
| 19 | $y = \sqrt{x-3}$ | $x \geq 3$ |
| 20 | $y = \sqrt[3]{4-2x}$ | $R$ |

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|---|---|---|
| 21 | $y = \frac{4-8x}{\sqrt{6+x^2}}$ | $R$ |
| 22 | $y = \frac{x^2-\sqrt{2}}{x^2-4}$ | $x \neq \pm 2$ |
| 23 | $y = \frac{\sqrt{x}-3}{x-2}$ | $0 \leq x < 2 \ \vee \ x > 2$ |
| 24 | $y = \frac{2x-1}{7-x^2}$ | $x \neq -\sqrt{7} \ \wedge \ x \neq +\sqrt{7}$ |
| 25 | $y = x^3 - 2x^2 - 3x - 2$ | $R$ |
| 26 | $y = \frac{1-x^2}{x^2+x+3}$ | $R$ |
| 27 | $y = \sqrt{x^2-2x-2}$ | $x \leq 1-\sqrt{3} \ \vee \ x \geq 1+\sqrt{3}$ |
| 28 | $y = \sqrt[5]{\frac{x^2-1}{x^2-4x+3}}$ | $x \neq 1 \ \wedge \ x \neq 3$ |
| 29 | $y = \frac{x^2+5}{x^2+x-6}$ | $x \neq -3 \ \wedge \ x \neq 2$ |
| 30 | $y = \frac{x+9}{x^2+2x+1}$ | $x \neq -1$ |

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|---|---|---|
| 31 | $y = \frac{\sqrt{-1+x}}{x^2+x+1}$ | $x \geq 1$ |
| 32 | $y = \frac{x+3}{x^2-1}$ | $x \neq -1 \ \wedge \ x \neq 1$ |
| 33 | $y = \frac{3x-1}{x^2-5x+6}$ | $x \neq 2 \ \wedge \ x \neq 3$ |
| 34 | $y = \frac{8x-1}{\sqrt{x+2}}$ | $x > -2$ |
| 35 | $y = \frac{\sqrt{x-1}}{x+1}$ | $x \geq 1$ |
| 36 | $y = \frac{x^2-5x}{\sqrt[3]{4-x}}$ | $x \neq 4$ |
| 37 | $y = \sqrt[3]{\frac{x+2}{x-6}}$ | $x \neq 6$ |
| 38 | $y = \frac{\sqrt[3]{x-1}}{2x+5}$ | $x \neq -\frac{5}{2}$ |
| 39 | $y = \sqrt{x-3} + \sqrt[3]{x+1}$ | $x \geq 3$ |
| 40 | $y = \sqrt[5]{x^3+4x^2-2} \cdot \sqrt{x}$ | $x \geq 0$ |

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|---|---|---|
| 41 | $y=\sqrt{4-x^2}$ | $-2 \le x \le 2$ |
| 42 | $y=\sqrt{\frac{2+x^2}{x}}$ | $x > 0$ |
| 43 | $y=\sqrt{\frac{x+1}{x-1}}$ | $x \le -1 \ \vee \ x > 1$ |
| 44 | $y=\sqrt{\frac{1+x^2}{-3}}$ | $\emptyset$ |
| 45 | $y=\frac{x^2-x+1}{x^2-7x+12}$ | $x \neq 3 \ \wedge \ x \neq 4$ |
| 46 | $y=\sqrt{1+x^2}$ | $R$ |
| 47 | $y=\frac{x-4}{\lvert x+5 \rvert}$ | $x \neq -5$ |
| 48 | $y=\frac{x+5}{x^4+2}$ | $R$ |
| 49 | $y=\frac{x}{\lvert x-5 \rvert}$ | $x \neq 5$ |
| 50 | $y=\sqrt[9]{\frac{5-x}{\lvert x-1 \rvert}}$ | $x \neq 1$ |

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|---|---|---|
| 51 | $y = \frac{(x^2-1)\sqrt[3]{x^5-2}}{x\sqrt[4]{2-x}}$ | $x < 2 \ \wedge \ x \neq 0$ |
| 52 | $y = \sqrt{x+1} + \sqrt{x^2-5}$ | $x \geq \sqrt{5}$ |
| 53 | $y = \sqrt{1-x^2}$ | $-1 \leq x \leq 1$ |
| 54 | $y = \frac{x\sqrt{x-3}}{x^2-16}$ | $3 \leq x < 4 \ \vee \ x > 4$ |
| 55 | $y = \sqrt{\frac{x-1}{x(x+1)}}$ | $-1 < x < 0 \ \vee \ x \geq 1$ |
| 56 | $y = \sqrt{x^2-4}$ | $x \leq -2 \ \vee \ x \geq 2$ |
| 57 | $y = \frac{1}{\sqrt{x^2+1}}$ | $R$ |
| 58 | $y = \sqrt{9-x^2} + \frac{5}{x}$ | $-3 \leq x < 0 \ \vee \ 0 < x \leq 3$ |
| 59 | $y = \frac{1}{\sqrt{x^2-3x}}$ | $x < 0 \ \vee \ x > 3$ |
| 60 | $y = \sqrt{\lvert x \rvert}$ | $R$ |

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|---|---|---|
| 61 | $y = \frac{x^2 - 5x + 6}{x^2 - 3x + 10}$ | $R$ |
| 62 | $y = \frac{2x^2 - x + 3}{-3x^2 + 16x - 5}$ | $x \neq \frac{1}{3} \ \wedge \ x \neq 5$ |
| 63 | $y = \frac{3x^2 + 5x - 2}{3x^2 - x - 14}$ | $x \neq -2 \ \wedge \ x \neq \frac{7}{3}$ |
| 64 | $y = \frac{x^3 - 1}{x^2 + x - 2}$ | $x \neq -2 \ \wedge \ x \neq 1$ |
| 65 | $y = \frac{x^2 - 3x}{x^3 - 8}$ | $x \neq 2$ |
| 66 | $y = \frac{\sqrt[3]{x - \frac{1}{2}}}{x}$ | $x \neq 0$ |
| 67 | $y = \lvert x^2 + x - 9 \rvert$ | $R$ |
| 68 | $y = \sqrt{x^2 - 6x}$ | $x \leq 0 \ \vee \ x \geq 6$ |
| 69 | $y = \sqrt[4]{x^2 + 5}$ | $R$ |
| 70 | $y = \sqrt[5]{\frac{x}{x^3 - 1}}$ | $x \neq 1$ |

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|---|---|---|
| 71 | $y=\sqrt[3]{\frac{3x-6}{3-\lvert x\rvert}}+\frac{6x}{\sqrt[5]{x-2}}$ | $x\neq -3 \ \wedge \ x\neq 2 \ \wedge \ x\neq 3$ |
| 72 | $y=\frac{4x^2}{\sqrt{4-x}}-\frac{2x}{\sqrt{2x-3}}$ | $\frac{3}{2}<x<4$ |
| 73 | $y=\frac{x+1}{\sqrt{x^2-6x+9}}$ | $x\neq 3$ |
| 74 | $y=\frac{5x^4-3x+3}{\sqrt[7]{2-x}}-\frac{x^2-2x+1}{\sqrt{x^2-6x+9}}$ | $x\neq 2 \ \wedge \ x\neq 3$ |
| 75 | $y=\frac{\sqrt[3]{2-x}}{\sqrt[4]{x^4-81}}$ | $x\leq -3 \ \vee \ x\geq 3$ |
| 76 | $y=\sqrt{x-3\lvert x\rvert}$ | $0$ |
| 77 | $y=\frac{x^2-3}{e-\lvert x^2-1\rvert}$ | $x\neq \pm\sqrt{1+e}$ |
| 78 | $y=\frac{3x^2-2}{\lvert x+1\rvert-5}$ | $x\neq -6 \ \wedge \ x\neq 4$ |
| 79 | $y=\frac{\sqrt{x^2+3}}{\lvert x^2-1\rvert+3x}$ | $x\neq \frac{-3-\sqrt{13}}{2} \ \wedge \ x\neq \frac{3-\sqrt{13}}{2}$ |
| 80 | $y=\sqrt{8-x^2}+\sqrt{x-1}+\sqrt{x}$ | $1\leq x\leq 2\sqrt{2}$ |

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|---|---|---|
| 81 | $y = \sqrt{\lvert 5 - 2x \rvert - 4 - x}$ | $x \leq \frac{1}{3} \vee x \geq 9$ |
| 82 | $y = \frac{x - 7}{x^2 - 2\lvert x \rvert - 3}$ | $x \neq -3 \wedge x \neq 3$ |
| 83 | $y = \sqrt{\frac{2x + 3}{x - 1}}$ | $x \leq -\frac{3}{2} \vee x > 1$ |
| 84 | $y = \sqrt{\sqrt{x - 1} - x + 3}$ | $1 \leq x \leq 5$ |
| 85 | $y = \sqrt{2x - 1 + \lvert x + 1 \rvert}$ | $x \geq 0$ |
| 86 | $y = \frac{3x + 1}{x^3 - x}$ | $x \neq -1 \wedge x \neq 0 \wedge x \neq 1$ |
| 87 | $y = \frac{1}{\sqrt{\lvert x - 1 \rvert}}$ | $x \neq 1$ |
| 88 | $y = \sqrt{\lvert x \rvert - x^2}$ | $-1 \leq x \leq 1$ |
| 89 | $y = \frac{2}{x - 1} - \frac{1}{x} - \frac{1}{x^2 - x}$ | $x \neq 0 \wedge x \neq 1$ |
| 90 | $y = \frac{3x}{2\lvert x \rvert - 1}$ | $x \neq -\frac{1}{2} \wedge x \neq \frac{1}{2}$ |

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|---|---|---|
| 91 | $y = \sqrt{x^2 - 1} + \sqrt{x - 5}$ | $x \geq 5$ |
| 92 | $y = \dfrac{x + \sqrt{x + 1}}{\sqrt{x - 2}}$ | $x > 2$ |
| 93 | $y = \dfrac{\sqrt{x^2 + 3} - \sqrt{x + 7}}{x^2 - 4x + 4}$ | $-7 \leq x < 2 \ \vee \ x > 2$ |
| 94 | $y = \dfrac{x - 1}{\lvert x - 3 \rvert + \lvert x + 1 \rvert}$ | $R$ |
| 95 | $y = \dfrac{3 + x}{\lvert x + 2 \rvert + \lvert x^2 - x - 6 \rvert}$ | $x \neq -2$ |
| 96 | $y = \dfrac{\lvert x + 5 \rvert}{\lvert x - 1 \rvert - \lvert x - 2 \rvert}$ | $x \neq \dfrac{3}{2}$ |
| 97 | $y = \sqrt[4]{\dfrac{x - x^2}{x^2 + 3}}$ | $0 \leq x \leq 1$ |
| 98 | $y = \sqrt{x^3 - 3x} + \sqrt[3]{x^2 - 3x - 4}$ | $-\sqrt{3} \leq x \leq 0 \ \vee \ x \geq \sqrt{3}$ |
| 99 | $y = \dfrac{3x^2 + 5x - 2}{\sqrt{x + 5} - 4}$ | $-5 \leq x < 11 \ \vee \ x > 11$ |
| 100 | $y = \dfrac{2x + x^2}{\sqrt{x^2 - 8}} + \sqrt{6 - x^2}$ | $\emptyset$ |

| | | |
|---|---|---|
| 101 | $y=\sqrt{\dfrac{x^3(x-1)^2}{x+3}}$ | $x<-3 \ \vee \ x\geq 0$ |
| 102 | $y=\sqrt[20]{1-\lvert 4-3x\rvert}$ | $1\leq x\leq \dfrac{5}{3}$ |
| 103 | $y=\dfrac{x^2-2+1}{6x-\lvert x^2-4\rvert}$ | $x\neq \pm 3+\sqrt{13}$ |
| 104 | $y=\dfrac{\sqrt{2+x^2}}{\sqrt[11]{-3x-\sqrt{1+x^2}}}$ | $x\neq -\dfrac{\sqrt{2}}{4}$ |
| 105 | $y=\dfrac{2-\sqrt[3]{3\lvert x\rvert -x+1}}{\sqrt{4-\lvert x\rvert}}$ | $-4<x<4$ |
| 106 | $y=\dfrac{\sqrt{1-\dfrac{e^2}{x}}}{\sqrt[5]{x^2-9}}$ | $x<0 \ \vee \ x>e^2 \ \wedge \ x\neq -3$ |
| 107 | $y=\sqrt{\dfrac{3x-\lvert x+4\rvert -1}{6-\lvert 1-x^2\rvert}}$ | $x<-\sqrt{7} \ \vee \ \dfrac{5}{2}\leq x<\sqrt{7}$ |
| 108 | $y=\dfrac{\sqrt{x+3}}{\sqrt{\lvert x+1\rvert -2}}+1$ | $x>1$ |
| 109 | $y=\dfrac{1}{\sqrt{\lvert x\rvert}}+\dfrac{1}{\lvert x^2-1\rvert}+\sqrt{2-x}$ | $x<2 \ \wedge \ x\neq 0 \ \wedge \ x\neq \pm 1$ |
| 110 | $y=\dfrac{\sqrt{16-x^2}}{x^2-6x+9}+\dfrac{x}{\sqrt{x^2-16}}$ | $\emptyset$ |

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|---|---|---|
| 111 | $y=\sqrt{1-\sqrt{x}}+\sqrt[3]{x+1}$ | $0 \le x \le 1$ |
| 112 | $y=\frac{\sqrt{4x-6}}{\sqrt[3]{x^2(x-8)}}+\sqrt[3]{\frac{1}{4-\lvert x\rvert}}$ | $x \ge \frac{3}{2} \wedge x \ne 4 \wedge x \ne 8$ |
| 113 | $y=\sqrt{2x-\sqrt{3-4x}}$ | $\frac{1}{2} < x \le \frac{3}{4}$ |
| 114 | $y=\frac{3-x^2}{\sqrt[6]{2x-\lvert 1-4x\rvert}}$ | $\frac{1}{6} < x < \frac{1}{2}$ |
| 115 | $y=\frac{3x^3+1}{\lvert 3x-1\rvert+2}+\frac{2-\lvert x\rvert}{\sqrt{4x-1}}$ | $x > \frac{1}{4}$ |
| 116 | $y=\sqrt[4]{x-2+23\lvert x+1\rvert-\lvert 2x-1\rvert}$ | $x \le -\frac{13}{10} \vee x \ge -\frac{10}{13}$ |
| 117 | $y=\sqrt{\frac{\lvert -2x-1\rvert-3}{x^2+2x-1}}$ | $x < -\sqrt{2}-1 \vee 2 \le x < \sqrt{2}-1 \vee x \ge 1$ |
| 118 | $y=\sqrt{\sqrt{3-x^2}-\sqrt{2-x}}$ | $\frac{1-\sqrt{5}}{2} \le x \le \frac{1+\sqrt{5}}{2}$ |

## funzioni logaritmiche ed esponenziali

| | | |
|---|---|---|
| 119 | $y=log(x-3)$ | $x > 3$ |
| 120 | $y=log_2(5-x)+1$ | $x < 5$ |

| | | |
|---|---|---|
| 121 | $y = e^{5-x}$ | $R$ |
| 122 | $y = log\frac{x^2+5}{3}$ | $R$ |
| 123 | $y = 8^{\frac{5}{x-2}}$ | $x \neq 2$ |
| 124 | $y = log_{\frac{1}{2}}\sqrt{x-8}$ | $x > 8$ |
| 125 | $y = 3^{\frac{x-1}{5-x}}$ | $x \neq 5$ |
| 126 | $y = log_{\frac{2}{3}}(1-x)$ | $x < 1$ |
| 127 | $y = 5^{\frac{5x^2-1}{5x-1}}$ | $x \neq \frac{1}{5}$ |
| 128 | $y = log_{\frac{1}{2}}\frac{x-3}{1-x}$ | $1 < x < 3$ |
| 129 | $y = e^{\frac{x+3}{x-1}}$ | $x \neq 1$ |
| 130 | $y = \sqrt{2^{2x} - 2^x}$ | $x \geq 0$ |
| 131 | $y = e^{\frac{x+3}{x-1}}$ | $x \neq 1$ |
| 132 | $y = \frac{3^{2x} + 5^{\frac{3x}{x-1}}}{x + \frac{1}{2}}$ | $x \neq -\frac{1}{2} \wedge x \neq 1$ |

| | | |
|---|---|---|
| 133 | $y = \sqrt{ln(x+1)}$ | $x \geq 0$ |
| 134 | $y = \sqrt{e^{x-1}}$ | $R$ |
| 135 | $y = e^{\frac{x-5}{\lvert 1+x \rvert}} + 5$ | $x \neq -1$ |
| 136 | $y = 6x^2 - ex - 3\,log_4\left(e^x - e^{\sqrt{3}}\right)$ | $x > \sqrt{3}$ |
| 137 | $y = 3x - \frac{2 - ln(x-1)}{4 + ln^2 x}$ | $x > 1$ |
| 138 | $y = \lvert x-5 \rvert e^{\frac{5^x}{2-x}}$ | $x \neq 2$ |
| 139 | $y = \lvert x+6 \rvert\, ln\, \lvert x^2 - 5 \rvert$ | $x \neq -\sqrt{5} \ \wedge \ x \neq \sqrt{5}$ |
| 140 | $y = \frac{\sqrt{3^{4x} + 7 \cdot 3^{2x} + 10}}{7^{\frac{3x-e}{x}}}$ | $x \neq 0$ |
| 141 | $y = x^{\pi}$ | $x \geq 0$ |
| 142 | $y = \left(\sqrt[3]{3}\right)^{lnx}$ | $x > 0$ |
| 143 | $y = \frac{3^{2x} + 3^x - 1}{ln\frac{x+1}{x}}$ | $x < -1 \ \vee \ x > 0$ |

| | | |
|---|---|---|
| 144 | $y = 2^{\frac{\sqrt{x^2-e^2}}{x+1}}$ | $x < -e \ \vee \ x > e$ |
| 145 | $y = 3x - e^{\frac{1}{1-\ln x}}$ | $x > 0 \ \wedge \ x \neq e$ |
| 146 | $y = e^{\frac{3}{\ln x - 2}}$ | $x > 0 \ \wedge \ x \neq e^2$ |
| 147 | $y = log_{\frac{1}{2}} \frac{2-x}{9-x^2}$ | $-3 < x < 2 \ \vee \ x > 3$ |
| 148 | $y = log_2 \frac{x+5}{1-x^2}$ | $x < -5 \ \vee \ -1 < x < 1$ |
| 149 | $y = 5^{\frac{x}{2-x^2}}$ | $x \neq -\sqrt{2} \ \wedge \ x \neq \sqrt{2}$ |
| 150 | $y = \ 2^{\frac{x+1}{x^2-4}}$ | $x \neq -2 \ \wedge \ x \neq 2$ |
| 151 | $y = e^{\frac{\sqrt{x^2-7x+12}}{x-5}}$ | $x < 3 \ \vee \ 4 \leq x < 5 \ \vee \ x > 5$ |
| 152 | $y = \left(\frac{3}{4}\right)^{\sqrt{2-x^2}}$ | $-\sqrt{2} \leq x \leq \sqrt{2}$ |

| | | |
|---|---|---|
| 153 | $y = \sqrt{\left(\frac{1}{2}\right)^{\frac{x-3}{x+5}} - \frac{1}{8}}$ | $x \leq -9 \ \vee \ x > -5$ |
| 154 | $y = \frac{3^{\frac{1}{x+1}} - 5^x}{\left(\frac{1}{4}\right)^{x^2} - 1}$ | $x \neq -1 \ \wedge \ x \neq 0$ |
| 155 | $y = log_7(e^{2x} - 5e^x + 6) + log_7 \lvert x - 2 \rvert$ | $x < ln2 \ \vee \ ln3 < x < 2 \ \vee \ x > 2$ |
| 156 | $y = \frac{log_2(x+1) + 2^{\frac{x}{x-1}}}{2^{\sqrt{x}}}$ | $0 \leq x < 1 \ \vee \ x > 1$ |
| 157 | $y = 2 \cdot 3^x \, ln\left(2x - \sqrt[3]{x}\right) - 3$ | $x < -\frac{\sqrt{2}}{4} \ \vee \ x > \frac{\sqrt{2}}{4}$ |
| 158 | $y = \frac{3^x + ln\, x - 1}{ln^2 x - 7\, ln\, x + 10}$ | $x > 0 \ \wedge \ x \neq e^2 \ \wedge \ x \neq e^5$ |
| 159 | $y = ln\, ln\, (x - 2)$ | $x > 3$ |
| 160 | $y = ln \frac{x^2 - 9}{x - 2} + e^{\sqrt{x^4 - 16}}$ | $-3 < x \leq -2 \ \vee \ x > 3$ |
| 161 | $y = 3^{\frac{x}{5 - \sqrt{x - x^2}}}$ | $0 \leq x \leq 1$ |
| 162 | $y = \sqrt{9 \cdot 3^{2x} - 82 \cdot 3^x + 9}$ | $x \leq -2 \ \vee \ x \geq 2$ |

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|---|---|---|
| 163 | $y = e^x log_{\frac{1}{3}}(3-x) + log_5(1-x^2) + log_5 x$ | $0 < x < 1$ |
| 164 | $y = \sqrt{\frac{ln(2^x - 1)}{3^x - 1}}$ | $x > 1$ |
| 165 | $y = \sqrt[4]{log_{\frac{1}{2}}(x^2 - 4) - log_{\frac{1}{2}}(x-1)}$ | $2 < x \leq \frac{1+\sqrt{13}}{2}$ |
| 166 | $y = \frac{x^2 + 2x - 3}{ln^2(2x-3) - 1}$ | $x > \frac{3}{2} \wedge x \neq \frac{3+e}{2} \wedge x \neq \frac{1+3e}{2}$ |
| 167 | $y = \frac{ln\, x - 5}{ln^2 x^2 - 1}$ | $x > 0 \wedge x \neq \sqrt{e^{-1}} \wedge x \neq \sqrt{e}$ |
| 168 | $y = \frac{1 - 3x^2}{ln(5x^2 - 12)}$ | $x < -\frac{2\sqrt{15}}{2} \vee x > \frac{2\sqrt{15}}{2} \wedge x \neq \pm\frac{\sqrt{65}}{5}$ |
| 169 | $y = (e^{2x} - 5e^x + 6)^{x^2 - 3x}$ | $x < ln\, 2 \vee x > ln\, 3$ |
| 170 | $y = \frac{3 + log_4(x^2+1)}{log_x 5}$ | $0 < x < 1 \vee x > 1$ |
| 171 | $y = \sqrt{log_{\frac{1}{3}}(x^2 - 3x - 1)}$ | $\frac{3-\sqrt{17}}{2} \leq x < \frac{3-\sqrt{13}}{2} \vee \frac{3+\sqrt{13}}{2} < x \leq \frac{3+\sqrt{17}}{2}$ |
| 172 | $y = \sqrt{ln\ \lvert x^2 - 9\rvert}$ | $x < -\sqrt{10} \vee -2\sqrt{2} \leq x \leq 2\sqrt{2} \vee x > \sqrt{10}$ |

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|---|---|---|
| 173 | $y = log_3\, log_{\frac{1}{4}}(5x-3)$ | $\frac{3}{5} < x < \frac{4}{5}$ |
| 174 | $y = ln\, ln(x^2-3)$ | $x < -2 \vee x > 2$ |
| 175 | $y = \frac{ln(2-\lvert x-3\rvert)}{\sqrt{log_2 x - 2}}$ | $4 < x < 5$ |
| 176 | $y = \left(\frac{3x-4}{4x-1}\right)^{\frac{x-1}{x-3}}$ | $x < \frac{1}{4} \vee \frac{4}{3} < x < 3 \vee x > 3$ |
| 177 | $y = \frac{2^x+5}{\sqrt{log_3(x-2x^2)+2}}$ | $\frac{1}{6} < x < \frac{1}{3}$ |
| 178 | $y = \frac{\sqrt[3]{2x^2-x+5}}{\sqrt{ln\ \lvert x\rvert}}$ | $x < -1 \vee x > 1$ |
| 179 | $y = \frac{e^{-x^2+3x}}{ln\,(\lvert x^2-2\rvert+3x)}$ | $x < -\frac{\sqrt{17}+3}{2} \vee x > \frac{3-\sqrt{17}}{2} \wedge x \neq -\frac{\sqrt{21}+3}{2} \wedge x \neq \frac{3-\sqrt{13}}{2}$ |
| 180 | $y = \frac{2^{2x}-6}{ln\,\lvert x^2-8\rvert}$ | $x \neq \pm 2\sqrt{2} \wedge x \neq \pm 3 \wedge x \neq \pm\sqrt{7}$ |
| 181 | $y = \frac{ln\sqrt{\frac{x(x-1)}{x+5}}}{e^{\frac{3x}{x+1}}-2}$ | $-5 < x < -1 \vee -1 < x < 0 \vee x > 1$ |
| 182 | $y = \sqrt[3]{\frac{2^{\frac{x(x+2)}{2-x}}-1}{log_3(\lvert x\rvert-1)}}$ | $x < -1 \vee x > 1 \wedge x \neq \pm 2$ |

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|---|---|---|
| 183 | $y = \left(log_{\frac{2}{3}}(x-3)\right)^{\frac{x+2}{x}}$ | $3 < x < 4$ |

## funzioni goniometriche

| | | |
|---|---|---|
| 187 | $y = sin\, x \cdot cos\, x$ | $R$ |
| 188 | $y = \sqrt[3]{6 + cos\, x}$ | $R$ |
| 189 | $y = \frac{2 + x^2 - 4x}{sin\, x}$ | $x \neq k\pi$ |
| 190 | $y = \frac{2 - cos^4 x}{sin^2 x + 2}$ | $R$ |
| 191 | $y = 4\, sin\, x - 3\, cos\, 3x$ | $R$ |
| 192 | $y = sin\left(x^2 - \frac{\pi}{6}\right)$ | R |
| 193 | $y = sin\, cos\, ln\, x$ | $x > 0$ |
| 194 | $y = \frac{3}{sin\, x}$ | $x \neq k\pi$ |
| 195 | $y = arctan\left\|\frac{2-5x}{3-x}\right\|$ | $x \neq 3$ |
| 196 | $y = ln\,(sin\, x - 1)$ | $\emptyset$ |
| 197 | $y = \frac{1 + tan\, x}{\sqrt{cos^2 x - 1}}$ | $\emptyset$ |
| 198 | $y = \frac{arcsin\, x - \pi}{x^2 - 1}$ | $-1 < x < 1$ |

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| 199 | $y = arccot\sqrt{x^2 - 9}$ | $x \leq -3 \ \vee \ x \geq 3$ |
| 200 | $y = \frac{sin\,3x + 2}{cos\,2x - 1}$ | $x \neq k\pi$ |
| 201 | $y = \sqrt{arcsin(x - 2)}$ | $2 \leq x \leq 3$ |
| 202 | $y = \frac{2\,cos\,x - 1}{sin\,x + 1}$ | $x \neq \frac{3}{2}\pi + 2k\pi$ |
| 203 | $y = \frac{arctan\,x + sin\,x}{2 + x}$ | $x \neq -2$ |
| 204 | $y = log_{10}\,tan\,x$ | $\frac{\pi}{4} + k\pi < x < \frac{\pi}{2} + k\pi$ |
| 205 | $y = \sqrt{-\,cos\,2x}$ | $\frac{\pi}{4} + k\pi \leq x \leq \frac{3}{4}\pi + k\pi$ |
| 206 | $y = log_2(-\,sin\,3x)$ | $\frac{\pi}{3} + \frac{2}{3}k\pi < x < \frac{2}{3}\pi + \frac{2}{3}k\pi$ |
| 207 | $y = ln\,sin\left(x - \frac{\pi}{2}\right)$ | $\frac{\pi}{2} + 2k\pi < x < \frac{3}{2}\pi + 2k\pi$ |
| 208 | $y = \sqrt{x} + arccos\,x$ | $0 \leq x \leq 1$ |
| 209 | $y = ln\,arctan\,x$ | $x > 0$ |
| 210 | $y = \sqrt[6]{cos\,x}$ | $-\frac{\pi}{2} + 2k\pi < x < \frac{\pi}{2} + 2k\pi$ |
| 211 | $y = \frac{cos\,x}{\lvert 1 - cos\,x \rvert}$ | $x \neq 2k\pi$ |
| 212 | $y = \frac{(x - 1)\,cos\,x}{cos^6\,x + sin^2\,x}$ | $R$ |

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|---|---|---|
| 213 | $y = 3^{\frac{1}{\cos x}}$ | $x \neq \frac{\pi}{2} + k\pi$ |
| 214 | $y = arcsin\, cos\, x$ | $R$ |
| 215 | $y = (x-1)\, arctan \frac{x-1}{x+3}$ | $x \neq -3$ |
| 216 | $y = 5x + arctan \frac{2x-3}{3x+5}$ | $x \neq -\frac{5}{3}$ |
| 217 | $y = arctan(ln\,(x+1)^2)$ | $x \neq -1$ |
| 218 | $y = sec\, 3x$ | $x \neq \frac{\pi}{6} + k\frac{\pi}{3}$ |
| 219 | $y = sin\left(\frac{3}{2}x\right) + ln\, cos(2x)$ | $-\frac{\pi}{4} + k\pi < x < \frac{\pi}{4} + k\pi$ |
| 220 | $y = log_7(cotx - \sqrt{3})$ | $k\pi < x < \frac{\pi}{6} + k\pi$ |
| 221 | $y = 2^{\sqrt{\left\lvert\frac{sIn\, x}{1-2\, cos\, x}\right\rvert}}$ | $x \neq \pm\frac{\pi}{3} + 2k\pi$ |
| 222 | $y = \sqrt{\frac{1-cos\, x}{1-sin\, x}}$ | $x \neq \frac{\pi}{2} + 2k\pi$ |

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| 223 | $y = arccos\dfrac{x+1}{x-2}$ | $x \leq \dfrac{1}{2}$ |
| 224 | $y = \dfrac{5 - 2cos\dfrac{x}{2}}{sin\left(\dfrac{x}{2}\right) + \dfrac{\sqrt{3}}{2}}$ | $x \neq -\dfrac{2}{3}\pi + 4k\pi \ \wedge \ x \neq \dfrac{8}{3}\pi + 4k\pi$ |
| 225 | $y = 2 - \dfrac{cos\,x - \sqrt{3}}{tan\,x + 1}$ | $x \neq -\dfrac{\pi}{4} + k\pi \ \wedge \ x \neq \dfrac{\pi}{2} + k\pi$ |
| 226 | $y = tan\dfrac{x}{3} - \dfrac{2+x}{2\,cot\,x}$ | $x \neq \dfrac{3\pi}{2} + 3k\pi \ \wedge \ x \neq \dfrac{\pi}{2} + k\pi$ |
| 227 | $y = \dfrac{tan\,x\,cos\,x}{1 - sin\,x\,cot\,x}$ | $x \neq 2k\pi$ |
| 228 | $y = \dfrac{2}{\sqrt{cos\dfrac{x}{2} - \dfrac{1}{2}}}$ | $-\dfrac{2\pi}{3} + 4k\pi < x < \dfrac{2\pi}{3} + 4k\pi$ |
| 229 | $y = ln\left(1 - 2cos\dfrac{x}{2}\right)$ | $\dfrac{2}{3}\pi + 4k\pi < x \leq \dfrac{10}{3}\pi + 4k\pi$ |
| 230 | $y = arcsin\left(1 - \sqrt{x+3}\right)$ | $-3 \leq x \leq 1$ |
| 231 | $y = \dfrac{2cos\,x + 3\,sin\,x}{5arctan\,(2lnx)}$ | $x > 0 \ \wedge \ x \neq 1$ |
| 232 | $y = csc\,x + arcsin\,x$ | $-1 \leq x \leq 1 \ \wedge \ x \neq 0$ |

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| 233 | $y = tan(x-3) + \sqrt{ln(x^2+1)}$ | $x \neq \frac{\pi}{2} + 3 + k\pi$ |
| 234 | $y = arcsin(9 - x^2)$ | $-\sqrt{10} \leq x \leq -2\sqrt{2} \ \vee \ 2\sqrt{2} \leq x \leq \sqrt{10}$ |
| 235 | $y = arcsin\frac{3\,ln\,x + 1}{ln\,x - 1}$ | $\frac{1}{e} \leq x \leq 1$ |
| 236 | $y = log_2\, arcos\ ln\ x$ | $\frac{1}{e} \leq x < e$ |
| 237 | $y = arcsin\, ln\, x - ln\, arcsin\, x$ | $\frac{1}{e} \leq x \leq 1$ |
| 238 | $y = \sqrt{sin\,x + cos\,x}$ | $-\frac{\pi}{4} + 2k\pi \leq x \leq \frac{3}{4}\pi + 2k\pi$ |
| 239 | $y = \sqrt{\frac{2\,sin\,x - 1}{cot\,x}}$ | $\frac{\pi}{6} + 2k\pi \leq x < \frac{\pi}{2} + 2k\pi \ \vee$ $\frac{5}{6}\pi + 2k\pi \leq x < (2k+1)\pi) \ \vee$ $+2k\pi < x < 2(k+1)\pi$ |
| 240 | $y = arcsin\frac{3}{x^2 - 4}$ | $x \leq -\sqrt{7} \vee -1 \leq x \leq 1 \ \vee \ x \geq \sqrt{7}$ |
| 241 | $y = \frac{3\,sin\,x + cos\,x}{\sqrt[4]{\lvert\, tan\,x - \sqrt{3}\rvert}}$ | $x \neq \frac{\pi}{3} + k\pi \ \wedge \ x \neq \frac{\pi}{2} + k\pi$ |
| 242 | $y = arccos\frac{1}{tan\,x}$ | $\frac{\pi}{4} + k\pi \leq x \leq \frac{3}{4}\pi + k\pi$ |
| 243 | $y = \sqrt{\frac{cos\,x}{1 - cos\,2x}}$ | $2k\pi < x \leq \frac{\pi}{2} + 2k\pi \ \vee$ $\frac{3}{2}\pi + 2k\pi \leq x < 2\pi + 2k\pi$ |

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| 244 | $y = log_3\, arcsin(e^x - 2)$ | $ln2 < x \leq ln3$ |
| 245 | $y = \dfrac{cos\, x}{ln\lvert cos\, x\rvert}$ | $x \neq \dfrac{\pi}{2}k$ |
| 246 | $y = log_3(tan\, x + 3\, cot\, x - 4)$ | $k\pi < x < \dfrac{\pi}{4} + k\pi \ \vee$ $arctg3 < x < \dfrac{\pi}{2} + k\pi$ |
| 247 | $y = arccot\left(3x - 2\sqrt[4]{5 - 7x}\right)$ | $x \leq \dfrac{5}{7}$ |
| 248 | $y = \dfrac{1 - 2\, sin^2\, x}{1 - 2\, cos\, x}$ | $x \neq \dfrac{\pi}{3} + 2k\pi \ \wedge \ x \neq \dfrac{5}{3}\pi + 2k\pi$ |
| 249 | $y = arcsin\sqrt{x - 2x^2}$ | $0 \leq x \leq \dfrac{1}{2}$ |
| 250 | $y = \sqrt{\sqrt{3}sin^2x - sin\, x\, cos\, x}$ | $\dfrac{\pi}{6} + k\pi \leq x \leq (k+1)\pi$ |
| 251 | $y = \dfrac{3 - tan\, x}{sin\, 2x - cos\, x}$ | $x \neq \dfrac{5\pi}{6} + 2k\pi \ \wedge \ x \neq \dfrac{\pi}{6} + 2k\pi \wedge$ $x \neq \dfrac{\pi}{2} + k\pi$ |
| 252 | $y = cot\dfrac{x}{2}\left(1 - \dfrac{tan^2x}{\sqrt{1 - tan\, x}}\right)$ | $-\dfrac{\pi}{2} + k\pi < x < \dfrac{\pi}{4} + k\pi \wedge x \neq k\pi$ |
| 253 | $y = \sqrt[4]{\dfrac{sin\, x\, cos\, x - 1}{\sqrt{3} - cot\, x}}$ | $k\pi < x < \dfrac{\pi}{6} + k\pi$ |

esercizi di riepilogo

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|---|---|---|
| 254 | $y = x^{2^x+3}$ | $x > 0$ |
| 255 | $y = \sqrt[3]{2xe^x - 2x}$ | $R$ |
| 256 | $y = 1 - e^{\frac{\sin x}{\cos^2 x - 1}}$ | $x \neq k\pi$ |
| 257 | $y = \sqrt{arcsin\frac{2x^2}{x+1}}$ | $-\frac{1}{2} \leq x \leq 1$ |
| 258 | $y = lnarctan\, x$ | $x > 0$ |
| 259 | $y = ln\left(\frac{4^x - 2^x}{5^x + 3}\right)$ | $x > 0$ |
| 260 | $y = \left(\frac{1}{5}\right)^{arccos\, ln\, x}$ | $\frac{1}{e} \leq x \leq e$ |
| 261 | $y = ln(x)^{\frac{lnx}{x}}$ | $x > 1$ |
| 262 | $y = arctan\, arccos\, sin\frac{1}{x}$ | $x \neq 0$ |
| 263 | $y = sin\, ln\, cos\, x$ | $-\frac{\pi}{2} + 2k\pi < x < \frac{\pi}{2} + 2k\pi$ |

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| 264 | $y = \sqrt[4]{\frac{x^2-4}{4-3x}}$ | $x \leq -2 \ \vee \ \frac{4}{3} < x \leq 2$ |
| 265 | $y = \frac{\sqrt{1-2x^2}}{arccos(7x-1)}$ | $0 \leq x < \frac{2}{7}$ |
| 266 | $y = \frac{arctan(\sqrt{x}-5)}{ln\ \lvert 5-x^2 \rvert}$ | $0 \leq x < \sqrt{6} \vee x > \sqrt{6} \ \wedge$ $x \neq 2 \ \wedge \ x \neq \sqrt{5}$ |
| 267 | $y = \left(\frac{x+1}{x^2}\right)^{senx}$ | $x > -1 \ \wedge \ x \neq 0$ |
| 268 | $y = \frac{\sqrt{log_2(x-1)}}{sin\,x\,(cos\,x-1)}$ | $x \geq 2 \wedge x \neq k\pi$ |
| 269 | $y = \frac{\sqrt{e^{\frac{1}{2}tan\,x}}}{log_3(x^2-x)-2}$ | $x < 0 \vee x > 1 \ \wedge \ x \neq \frac{\pi}{2} + k\pi \ \wedge$ $x \neq \frac{1 \pm \sqrt{37}}{2}$ |
| 270 | $y = \frac{ln\,sin\,x}{ln\,cos\,x}$ | $2k\pi < x < \frac{\pi}{2} + 2k\pi$ |
| 271 | $y = \sqrt{1 + \frac{\pi}{arcsin\,x}}$ | $0 < x \leq 1$ |
| 272 | $y = \frac{\sqrt[3]{3 - arcsin\,x}}{\sqrt[4]{arctan\frac{x}{2} + \pi}}$ | $-1 \leq x \leq 1$ |
| 273 | $y = \frac{x-1}{\pi - \lvert arctan\,x \rvert}$ | $R$ |

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| 274 | $y = arctan\sqrt{\frac{x^2-4}{x-1}}$ | $-2 \le x < 1 \ \vee \ x \ge 2$ |
| 275 | $y = \frac{x(x-3)}{2\,arccos\,x - \pi}$ | $-1 \le x < 0 \ \vee \ 0 < x \le 1$ |
| 276 | $y = \sqrt[3]{\frac{x^2-1}{\lvert 4-x^2\rvert}}$ | $x \ne -2 \ \wedge \ x \ne 2$ |
| 277 | $y = \sqrt{\frac{x^2-1}{2x+1}} + \sqrt{\frac{3x}{2-x^2}}$ | $1 \le x < \sqrt{2}$ |
| 278 | $y = \left[log_{\frac{1}{3}}(x^2-3)\right]^e$ | $-2 \le x < -\sqrt{3} \ \vee \ \sqrt{3} \le x < 2$ |
| 279 | $y = \sqrt{2 - \lvert e^x - 3\rvert}$ | $0 \le x \le ln5$ |
| 280 | $y = \frac{1}{arccos\,(2x)} - \frac{1}{arcsin\,(3x)}$ | $-\frac{1}{3} \le x \le \frac{1}{3} \ \wedge \ x \ne 0$ |
| 281 | $y = ln\frac{x^2-9}{x-2} + e^{\sqrt{x^4-16}}$ | $-3 < x \le -2 \ \vee \ x > 3$ |
| 282 | $y = \sqrt{\frac{2\,cos^2 x + 3\,sin\,x - 3}{1 - 2\,sin^2 x - cos\,x}}$ $con\ x \in [0,2\pi]$ | $0 < x \le \frac{\pi}{6} \ \vee \ \frac{2}{3}\pi < x \le \frac{5}{6}\pi \ \vee \ \frac{4}{3}\pi < x < 2\pi$ |
| 283 | $y = (sin\,x - cos\,x)^{ln\sqrt{2\,sin\,x - 1}}$ $con\ x \in [0,2\pi]$ | $\frac{\pi}{4} \le x < \frac{5}{6}\pi$ |

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| 284 | $y = \sqrt{x + 1 - \sqrt[3]{x^3 + 2x^2 + 3x + 6}}$ | $x \leq -\sqrt{5} \ \vee \ x \geq \sqrt{5}$ |
| 285 | $y = \frac{5}{x-1} ln \frac{e^x - 1}{x - 1}$ | $x < 0 \ \vee \ x > 1$ |
| 286 | $y = arccos[ln(1 - x) - ln(x + 1)]$ | $\frac{1-e}{1+e} \leq x \leq \frac{e-1}{e+1}$ |
| 287 | $y = arcsin \frac{tan^2 x}{3}$ | $-\frac{\pi}{3} + k\pi \leq x \leq \frac{\pi}{3} + k\pi$ |
| 288 | $y = \sqrt{arcsin\, ln(x + 2)}$ | $-1 \leq x \leq e - 2$ |
| 289 | $y = \sqrt{\frac{x^3 - 1}{x^2 - 9x + 18}} + e^{\frac{1}{tan\, x}}$ | $1 \leq x < 3 \ \vee \ x > 6 \wedge x \neq k\frac{\pi}{2}$ |
| 290 | $y = \frac{tan\, ln\, 2x}{ln\, tan\, 2x}$ | $k\frac{\pi}{2} < x < \frac{\pi}{8} + k\frac{\pi}{2} \ \vee$ $\frac{\pi}{8} + k\frac{\pi}{2} < x < \frac{\pi}{4} + k\frac{\pi}{2} \ \wedge$ $x \neq \frac{1}{2} e^{\frac{\pi}{2} + k\pi} \quad k \in N$ |
| 291 | $y = \sqrt{log_{\frac{1}{2}} arccos\, x + log_2 \frac{\pi}{3}}$ | $\frac{1}{2} \leq x < 1$ |
| 292 | $y = \frac{\sqrt{arcsin\, x - \frac{\pi}{3}}}{ln\, x}$ | $\frac{\sqrt{3}}{2} \leq x < 1$ |
| 293 | $y = \frac{1}{2\, ln\, 3x - 1} + ln\, arcsin\, x$ | $0 < x < \frac{\sqrt{e}}{3} \ \vee \ \frac{\sqrt{e}}{3} < x \leq 1$ |

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| 294 | $y = 1 - e^{\lvert \sin x \rvert - 1} + e^{\frac{1}{\sqrt{1-\tan x}}}$ | $-\frac{\pi}{2} + k\pi < x < \frac{\pi}{4} + k\pi$ |
| 295 | $y = ln(\lvert x^2 - x \rvert - 4) + arccos\, ln\, x$ | $\frac{1+\sqrt{17}}{2} < x \leq e$ |
| 296 | $y = arcsin \frac{ln\, x - 1}{ln\, x - 2}$ | $0 < x \leq e\sqrt{e}$ |
| 297 | $y = \sqrt{log_3^2\, x - \lvert log_3\, x - 2 \rvert}$ | $0 < x \leq \frac{1}{9} \ \vee \ x \geq 3$ |
| 298 | $y = \frac{x^2 + 1 + \sqrt{8 - x^3}}{\sqrt{3-x} - x + 3}$ | $x \leq 2$ |
| 299 | $y = log_3(3 - \lvert x - 3 - \lvert x - 2 \rvert \rvert)$ | $x > 1$ |
| 300 | $y = [log_2(x^2 - 4x + 4)]^{\sqrt{2}}$ | $x \leq 1 \ \vee \ x \geq 3$ |
| 301 | $y = ln(2sin^2\, x - sin\, x - 1)$ *con* $x \in [0,2\pi]$ | $\frac{7}{6}\pi < x < \frac{11}{6}\pi$ |
| 302 | $y = arccos(x^2 - 10x + 1)$ | $0 \leq x \leq 5 - \sqrt{23} \ \vee \ 5 + \sqrt{23} \leq x \leq 10$ |
| 303 | $y = arcsin\, tan\, x + \frac{1}{arccos\, sin\, x}$ | $-\frac{\pi}{4} + k\pi \leq x \leq \frac{\pi}{4} + k\pi$ |
| 304 | $y = \sqrt{\frac{arcsin\ 2x}{arctan\, x - \frac{\pi}{3}}}$ | $-\frac{1}{2} \leq x \leq 0$ |

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| 305 | $y = ln(\lvert x^2 - x\rvert - 4) + arccos\, ln\, x$ | $\frac{1+\sqrt{17}}{2} < x \leq e$ |

esercizi di riepilogo più impegnativi

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| 306 | $y = \sqrt{3x - \lvert x - \lvert 2x^2 - 1\rvert\rvert}$ | $\frac{\sqrt{6}-2}{2} \leq x \leq \frac{\sqrt{6}+2}{2}$ |
| 307 | $y = \sqrt{log_{x-1}\frac{3x^2+10x+3}{11}}$ | $x > 2$ |
| 308 | $y = \sqrt{log_2(\lvert x+3\rvert - 3) - log_2(\lvert x+7\rvert + 1)}$ | $x \leq -7$ |
| 309 | $y = arccos\left(-3 + \sqrt{24\, sin^2\, x - 2}\right)$ | $\frac{\pi}{6} + k\pi \leq x \leq \frac{\pi}{3} + k\pi \ \vee$<br>$-\frac{\pi}{3} + k\pi \leq x \leq -\frac{\pi}{6} + k\pi$ |
| 310 | $y = \frac{ln\left(\sqrt{9x^2 - 30x + 25} - \sqrt{x^2 + 5x - 6}\right)}{x - 3 - \sqrt{x^2 - 4}}$ | $x \leq 6 \ \vee\ 1 \leq x < \frac{35-\sqrt{233}}{16} \ \vee$<br>$x > \frac{35+\sqrt{233}}{16}$ |
| 311 | $y = \frac{\sqrt{\frac{\pi}{4} - arctan\, sin\, x}}{\lvert cot\, 2x\rvert - \sqrt{3}}$ | $x \neq \pm\frac{\pi}{12} + k\frac{\pi}{2} \ \wedge\ x \neq k\frac{\pi}{2}$ |
| 312 | $y = e^{\sqrt{\frac{sin^2 x - \frac{1}{2}}{cos^3 x}}}$ | $\frac{\pi}{4} + 2k\pi \leq x < \frac{\pi}{2} + 2k\pi \ \vee$<br>$\frac{3\pi}{4} + 2k\pi \leq x \leq \frac{5\pi}{4} + 2k\pi \ \vee$<br>$\frac{3\pi}{2} + 2k\pi < x \leq \frac{7\pi}{4} + 2k\pi$ |
| 313 | $y = \sqrt{\frac{ln\, arctan(x^2 - x) - ln\frac{\pi}{4}}{e^{\frac{1}{2x}} - 1}}$ | $\frac{1-\sqrt{5}}{2} \leq x < 0 \ \vee\ x \geq \frac{1+\sqrt{5}}{2}$ |

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| 314 | $y = \sqrt{log_{\frac{1}{2}} arccos\, x + log_2 \frac{\pi}{3}}$ | $\frac{1}{2} \leq x < 1$ |
| 315 | $y = \frac{1}{\sqrt[4]{x^2 - 5x + 6} - \sqrt{x-1}}$ | $1 \leq x < \frac{5}{3} \vee \frac{5}{3} < x \leq 2 \vee x \geq 3$ |
| 316 | $y = \frac{\sqrt{x^2 - 2x + 1} - 3}{\sqrt{\lvert x \rvert} - \sqrt{x+1}}$ | $-1 \leq x < -\frac{1}{2} \vee x > -\frac{1}{2}$ |
| 317 | $y = \frac{\lvert x-1 \rvert + \sqrt{x}}{\sqrt{3 - \lvert x^2 - 5x + 6 \rvert} - \sqrt{x+1}}$ | $\frac{5-\sqrt{13}}{2} \leq x \leq \frac{5+\sqrt{13}}{2} \wedge x \neq 2$ |
| 318 | $y = \frac{\sqrt{x + \lvert x^2 - 1 \rvert} - 3}{\sqrt{x + \sqrt{x-1}}}$ | $x \geq 1$ |
| 319 | $y = \sqrt{\frac{x^2 - \lvert x+3 \rvert}{\sqrt{x-1} + \lvert x+3 \rvert}}$ | $x \geq \frac{1+\sqrt{13}}{2}$ |
| 320 | $y = \sqrt{x - \sqrt{2x+3}} + \sqrt{x^3 - 3x^2}$ | $x \geq 3$ |
| 321 | $y = \sqrt[4]{x^5 + x^3} + \sqrt{\sqrt{3x-2} - 5}$ | $x \geq 9$ |

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| 322 | $y = \sqrt{\frac{log_{\frac{1}{2}}(x-3)+2}{3+log_{x+1}5}}$ | $3 < x \leq 7$ |
| 323 | $y = log_{x-5}(x-2)$ | $5 < x < 6 \ \vee \ x > 6$ |
| 324 | $y = ln \ \|ln \ \|x\|\|$ | $x \neq -1 \ \wedge \ x \neq 0 \ \wedge \ x \neq 1$ |
| 325 | $y = ln\left(2 - \left\|\frac{x}{1-3x}\right\|\right)$ | $x < \frac{2}{7} \ \vee \ x > \frac{2}{5}$ |
| 326 | $y = \sqrt{\frac{log_x\|x-5\|}{e^{ln\frac{2x(x-4)}{x+1}}}}$ | $x \geq 6$ |
| 327 | $y = \frac{3+e^{-\frac{x^2-3x+2}{x-6}}}{log_{\frac{3}{4}}\sqrt{x^2-\frac{1}{4}}}$ | $x < -\frac{1}{2} \ \vee \ x > \frac{1}{2} \ \wedge$ $x \neq \pm\frac{\sqrt{5}}{2} \ \wedge \ x \neq 6$ |
| 328 | $y = \frac{\sqrt{sin\,x\left(cos\,x-\frac{1}{2}\right)}}{\|tan\,x\|-1}$ | $2k \leq x \leq \frac{\pi}{3}+2k\pi \ \vee$ $\pi+2k\pi \leq x \leq \frac{5\pi}{3}+2k\pi \wedge$ $x \neq \frac{3}{2}\pi+2k\pi \ \wedge \ x \neq \frac{\pi}{4}+k\pi$ |
| 329 | $y = \frac{\sqrt{\|cos\,x\|-\frac{1}{2}}}{e^{\frac{1}{sin\,x}}}$ | $-\frac{\pi}{3}+k\pi \leq x \leq \frac{\pi}{3}+k\pi \ \wedge \ x \neq k\pi$ |

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| 330 | $y = \frac{ln(\lvert sin\, x\rvert - 1)}{ln\sqrt{cos\, x}}$ | $\emptyset$ |
| 331 | $y = e^{\frac{tan\, x}{\lvert cos\, x\rvert - \frac{\sqrt{2}}{2}}}$ | $x \neq \frac{\pi}{2} + k\pi \ \wedge \ x \neq \frac{\pi}{4} + k\frac{\pi}{2}$ |
| 332 | $y = \frac{\sqrt{arcsin(2\lvert x\rvert - 1)}}{ln(2x^3 - x)}$ | $-\frac{\sqrt{2}}{2} \leq x \leq -\frac{1}{2} \ \vee \ \frac{\sqrt{2}}{2} < x < 1$ |
| 333 | $y = \frac{ln\, ln(\lvert x - 1\rvert - 5)}{1 - e^{\frac{x}{\sqrt{x - \lvert 1 - x\rvert}}}}$ | $x > 7$ |
| 334 | $y = \frac{1}{3}\frac{ln\, ln\frac{1}{\sqrt{x^2 + 3x - 10}}}{\sqrt{\lvert x - 1\rvert - x^2}}$ | $\emptyset$ |
| 335 | $y = \frac{\sqrt[x]{e^{x+1} + 3}}{\sqrt{x^2 - 4x + 4}}$ | $x > 0 \ \wedge \ x \neq 2 \ \wedge \ x \in N$ |
| 336 | $y = \frac{\left\lvert ln\frac{x^2 + x - 1}{x - 2} - 1\right\rvert}{\sqrt{x}}$ | $0 < x < \frac{1}{2}(\sqrt{5} - 1) \ \vee \ x > 2$ |
| 337 | $y = e^x\, ln\left(2^{\frac{x^2 - 1}{2x}} + x^{e^x}\right)$ | $x > 0$ |
| 338 | $y = ln\left(sin\, x - \frac{\sqrt{3}}{2}\right) + ln\sqrt{cos\, x} - ln\left(tan\frac{x}{2} + 1\right)$ | $\frac{\pi}{3} + 2k\pi < x < \frac{\pi}{2} + 2k\pi$ |

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| 339 | $y = log_{\frac{1}{2}} \frac{x^2-1}{x^2+1} + 3^{\frac{x}{\sqrt{x-1}}} \; log_2 \frac{1}{x+2} - \sqrt{2}\, e^{\frac{1}{\ln x}} \; log_2 \sqrt{\frac{x}{x+1}}$ | $x > 1$ |
| 340 | $y = \sqrt{log_a(x^2+2x+4) - log_a(x^2+x+3)} + log_a\left(a^{x^2+3x} - a^4\right)$ $con\ a \in R^+ - \{1\}$ | $se\ a > 1 \ \rightarrow \ x > 1$<br>$se\ 0 < a < 1 \ \rightarrow \ -4 \leq x \leq -1$ |