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

Calcolo di domini

PASSED

11	$y = \frac{5}{2x+3}$	$x \neq -\frac{3}{2}$
12	$y = \frac{x-1}{x+1}$	$x \neq -1$
13	$y = \frac{2x+9}{x-8}$	$x \neq 8$
14	$y = \frac{3x+1}{3x-1}$	$x \neq \frac{1}{3}$
15	$y = \frac{4x^2+1}{x-20}$	$x \neq 20$
16	$y = \frac{4x^2+2x+1}{x-3}$	$x \neq 3$
17	$y = \sqrt{x}$	$x \geq 0$
18	$y = \sqrt{x-1}$	$x \geq 1$
19	$y = \sqrt{x+3}$	$x \geq -3$
20	$y = \sqrt{x-8}$	$x \geq 8$

21	$y = \sqrt{x - 3}$	$x \geq 3$
22	$y = \sqrt{-5 + x}$	$x \geq 5$
23	$y = \sqrt{-2 - x}$	$x \leq -2$
24	$y = \sqrt{2x + 1}$	$x \geq -\frac{1}{2}$
25	$y = \sqrt{4x - 5}$	$x \geq \frac{5}{4}$
26	$y = \sqrt{x^2 - 1}$	$x \leq +1 \ \vee \ x \geq 1$
27	$y = \sqrt{x^2 + 1}$	R
28	$y = \sqrt[3]{x}$	R
29	$y = \sqrt[3]{4 - 2x}$	R
30	$y = \sqrt[3]{x^2 - 1}$	R

31	$y = \sqrt[3]{x^2 - 2x + 6}$	R
32	$y = \dfrac{\sqrt{x} - 3}{x - 2}$	$0 \leq x < 2 \ \vee \ x > 2$
33	$y = \dfrac{3x^5 - 4x^4 + 3x^2 - 6}{x^2 + 5}$	R
34	$y = \dfrac{3x^2 + 2}{2x - 3}$	$x \neq \frac{3}{2}$
35	$y = x^3 - \dfrac{x}{2} + 1$	R
36	$y = \dfrac{x^2 + 5}{x^3}$	$x \neq 0$
37	$y = 3x^3 - 5x^2 + 1$	R
38	$y = \dfrac{1}{x^2}$	$x \neq 0$
39	$y = \dfrac{1}{x^5}$	$x \neq 0$
40	$y = \dfrac{3x + 1}{2x - 1}$	$x \neq \frac{1}{2}$

41	$y = \frac{x^2 + x - 1}{x + 2}$	$x \neq -2$
42	$y = \frac{4 - 8x}{\sqrt{6 + x^2}}$	R
43	$y = \frac{x^2 - \sqrt{2}}{x^2 - 4}$	$x \neq \pm 2$
44	$y = \frac{2x - 1}{7 - x^2}$	$x \neq -\sqrt{7} \ \wedge \ x \neq +\sqrt{7}$
45	$y = x^3 - 2x^2 - 3x - 2$	R
46	$y = \frac{1 - x^2}{x^2 + x + 3}$	R
47	$y = \sqrt{x^2 - 2x - 2}$	$x \leq 1 - \sqrt{3} \ \vee \ x \geq 1 + \sqrt{3}$
48	$y = \sqrt[5]{\frac{x^2 - 1}{x^2 - 4x + 3}}$	$x \neq 1 \ \wedge \ x \neq 3$
49	$y = \frac{x^2 + 5}{x^2 + x - 6}$	$x \neq -3 \ \wedge \ x \neq 2$
50	$y = \frac{x + 9}{x^2 + 2x + 1}$	$x \neq -1$

51	$y = \frac{\sqrt{-1+x}}{x^2+x+1}$	$x \geq 1$
52	$y = \frac{x+3}{x^2-1}$	$x \neq -1 \ \wedge \ x \neq 1$
53	$y = \frac{3x-1}{x^2-5x+6}$	$x \neq 2 \ \wedge \ x \neq 3$
54	$y = \frac{8x-1}{\sqrt{x+2}}$	$x > -2$
55	$y = \frac{\sqrt{x-1}}{x+1}$	$x \geq 1$
56	$y = \frac{x^2-5x}{\sqrt[3]{4-x}}$	$x \neq 4$
57	$y = \sqrt[3]{\frac{x+2}{x-6}}$	$x \neq 6$
58	$y = \frac{\sqrt[3]{x-1}}{2x+5}$	$x \neq -\frac{5}{2}$
59	$y = \sqrt{x-3} + \sqrt[3]{x+1}$	$x \geq 3$
60	$y = \sqrt[5]{x^3+4x^2-2} \cdot \sqrt{x}$	$x \geq 0$

61	$y=\sqrt{4-x^2}$	$-2 \le x \le 2$
62	$y=\sqrt{\frac{2+x^2}{x}}$	$x > 0$
63	$y=\sqrt{\frac{x+1}{x-1}}$	$x \le -1 \ \vee \ x > 1$
64	$y=\sqrt{\frac{1+x^2}{-3}}$	$\emptyset$
65	$y=\frac{x^2-x+1}{x^2-7x+12}$	$x \neq 3 \ \wedge \ x \neq 4$
66	$y=\sqrt{1+x^2}$	R
67	$y=\frac{x-4}{\lvert x+5 \rvert}$	$x \neq -5$
68	$y=\frac{x+5}{x^4+2}$	R
69	$y=\frac{x}{\lvert x-5 \rvert}$	$x \neq 5$
70	$y=\sqrt[9]{\frac{5-x}{\lvert x-1 \rvert}}$	$x \neq 1$

71	$y = \frac{(x^2-1)\sqrt[3]{x^5-2}}{x\sqrt[4]{2-x}}$	$x < 2 \ \wedge \ x \neq 0$
72	$y = \sqrt{x+1} + \sqrt{x^2-5}$	$x \geq \sqrt{5}$
73	$y = \sqrt{1-x^2}$	$-1 \leq x \leq 1$
74	$y = \frac{x\sqrt{x-3}}{x^2-16}$	$3 \leq x < 4 \ \vee \ x > 4$
75	$y = \sqrt{\frac{x-1}{x(x+1)}}$	$-1 < x < 0 \ \vee \ x \geq 1$
76	$y = \sqrt{x^2-4}$	$x \leq -2 \ \vee \ x \geq 2$
77	$y = \frac{1}{\sqrt{x^2+1}}$	R
78	$y = \sqrt{9-x^2} + \frac{5}{x}$	$-3 \leq x < 0 \ \vee \ 0 < x \leq 3$
79	$y = \frac{1}{\sqrt{x^2-3x}}$	$x < 0 \ \vee \ x > 3$
80	$y = \sqrt{\lvert x \rvert}$	R

81	$y = \frac{x^2 - 5x + 6}{x^2 - 3x + 10}$	R
82	$y = \frac{2x^2 - x + 3}{-3x^2 + 16x - 5}$	$x \neq \frac{1}{3} \ \wedge \ x \neq 5$
83	$y = \frac{3x^2 + 5x - 2}{3x^2 - x - 14}$	$x \neq -2 \ \wedge \ x \neq \frac{7}{3}$
84	$y = \frac{x^3 - 1}{x^2 + x - 2}$	$x \neq -2 \ \wedge \ x \neq 1$
85	$y = \frac{x^2 - 3x}{x^3 - 8}$	$x \neq 2$
86	$y = \frac{\sqrt[3]{x - \frac{1}{2}}}{x}$	$x \neq 0$
87	$y = \lvert x^2 + x - 9 \rvert$	R
88	$y = \sqrt{x^2 - 6x}$	$x \leq 0 \ \vee \ x \geq 6$
89	$y = \sqrt[4]{x^2 + 5}$	R
90	$y = \sqrt[5]{\frac{x}{x^3 - 1}}$	$x \neq 1$

91	$y=\sqrt[3]{\frac{3x-6}{3-\lvert x\rvert}}+\frac{6x}{\sqrt[5]{x-2}}$	$x\neq -3 \ \wedge \ x\neq 2 \ \wedge \ x\neq 3$
92	$y=\frac{4x^2}{\sqrt{4-x}}-\frac{2x}{\sqrt{2x-3}}$	$\frac{3}{2}<x<4$
93	$y=\frac{x+1}{\sqrt{x^2-6x+9}}$	$x\neq 3$
94	$y=\frac{5x^4-3x+3}{\sqrt[7]{2-x}}-\frac{x^2-2x+1}{\sqrt{x^2-6x+9}}$	$x\neq 2 \ \wedge \ x\neq 3$
95	$y=\frac{\sqrt[3]{2-x}}{\sqrt[4]{x^4-81}}$	$x\leq -3 \ \vee \ x\geq 3$
96	$y=\sqrt{x-3\lvert x\rvert}$	0
97	$y=\frac{x^2-3}{e-\lvert x^2-1\rvert}$	$x\neq \pm\sqrt{1+e}$
98	$y=\frac{3x^2-2}{\lvert x+1\rvert-5}$	$x\neq -6 \ \wedge \ x\neq 4$
99	$y=\frac{\sqrt{x^2+3}}{\lvert x^2-1\rvert+3x}$	$x\neq \frac{-3-\sqrt{13}}{2} \ \wedge \ x\neq \frac{3-\sqrt{13}}{2}$

100	$y = \sqrt{8 - x^2} + \sqrt{x - 1} + \sqrt{x}$	$1 \leq x \leq 2\sqrt{2}$
101	$y = \sqrt{\lvert 5 - 2x \rvert - 4 - x}$	$x \leq \frac{1}{3} \vee x \geq 9$
102	$y = \frac{x - 7}{x^2 - 2\lvert x \rvert - 3}$	$x \neq -3 \wedge x \neq 3$
103	$y = \sqrt{\frac{2x + 3}{x - 1}}$	$x \leq -\frac{3}{2} \vee x > 1$
104	$y = \sqrt{\sqrt{x - 1} - x + 3}$	$1 \leq x \leq 5$
105	$y = \sqrt{2x - 1 + \lvert x + 1 \rvert}$	$x \geq 0$
106	$y = \frac{3x + 1}{x^3 - x}$	$x \neq -1 \wedge x \neq 0 \wedge x \neq 1$
107	$y = \frac{1}{\sqrt{\lvert x - 1 \rvert}}$	$x \neq 1$
108	$y = \sqrt{\lvert x \rvert - x^2}$	$-1 \leq x \leq 1$
109	$y = \frac{2}{x - 1} - \frac{1}{x} - \frac{1}{x^2 - x}$	$x \neq 0 \wedge x \neq 1$

110	$y = \dfrac{3x}{2\lvert x\rvert - 1}$	$x \neq -\dfrac{1}{2} \ \wedge \ x \neq \dfrac{1}{2}$
111	$y = \sqrt{x^2 - 1} + \sqrt{x - 5}$	$x \geq 5$
112	$y = \dfrac{x + \sqrt{x + 1}}{\sqrt{x - 2}}$	$x > 2$
113	$y = \dfrac{\sqrt{x^2 + 3} - \sqrt{x + 7}}{x^2 - 4x + 4}$	$-7 \leq x < 2 \ \vee \ x > 2$
114	$y = \dfrac{x - 1}{\lvert x - 3\rvert + \lvert x + 1\rvert}$	R
115	$y = \dfrac{3 + x}{\lvert x + 2\rvert + \lvert x^2 - x - 6\rvert}$	$x \neq -2$
116	$y = \dfrac{\lvert x + 5\rvert}{\lvert x - 1\rvert - \lvert x - 2\rvert}$	$x \neq \dfrac{3}{2}$
117	$y = \sqrt[4]{\dfrac{x - x^2}{x^2 + 3}}$	$0 \leq x \leq 1$
118	$y = \sqrt{x^3 - 3x} + \sqrt[3]{x^2 - 3x - 4}$	$-\sqrt{3} \leq x \leq 0 \ \vee \ x \geq \sqrt{3}$
119	$y = \dfrac{3x^2 + 5x - 2}{\sqrt{x + 5} - 4}$	$-5 \leq x < 11 \ \vee \ x > 11$

120	$y = \dfrac{2x + x^2}{\sqrt{x^2 - 8}} + \sqrt{6 - x^2}$	$\emptyset$
121	$y = \sqrt{\dfrac{x^3(x-1)^2}{x+3}}$	$x < -3 \ \vee \ x \geq 0$
122	$y = \sqrt[20]{1 - \lvert 4 - 3x \rvert}$	$1 \leq x \leq \dfrac{5}{3}$
123	$y = \dfrac{x^2 - 2x + 1}{6x - \lvert x^2 - 4 \rvert}$	$x \neq \pm 3 + \sqrt{13}$
124	$y = \dfrac{\sqrt{2 + x^2}}{\sqrt[11]{-3x - \sqrt{1 + x^2}}}$	$x \neq -\dfrac{\sqrt{2}}{4}$
125	$y = \dfrac{2 - \sqrt[3]{3\lvert x \rvert - x + 1}}{\sqrt{4 - \lvert x \rvert}}$	$-4 < x < 4$
126	$y = \dfrac{\sqrt{1 - \dfrac{e^2}{x}}}{\sqrt[5]{x^2 - 9}}$	$x < 0 \ \vee \ x > e^2 \ \wedge \ x \neq -3$
127	$y = \sqrt{\dfrac{3x - \lvert x + 4 \rvert - 1}{6 - \lvert 1 - x^2 \rvert}}$	$x < -\sqrt{7} \ \vee \ \dfrac{5}{2} \leq x < \sqrt{7}$
128	$y = \dfrac{\sqrt{x+3}}{\sqrt{\lvert x+1 \rvert - 2}} + 1$	$x > 1$
129	$y = \dfrac{1}{\sqrt{\lvert x \rvert}} + \dfrac{1}{\lvert x^2 - 1 \rvert} + \sqrt{2 - x}$	$x < 2 \ \wedge \ x \neq 0 \ \wedge \ x \neq \pm 1$

130	$y=\frac{\sqrt{16-x^2}}{x^2-6x+9}+\frac{x}{\sqrt{x^2-16}}$	$\emptyset$
131	$y=\sqrt{1-\sqrt{x}}+\sqrt[3]{x+1}$	$0\le x\le 1$
132	$y=\frac{\sqrt{4x-6}}{\sqrt[3]{x^2(x-8)}}+\sqrt[3]{\frac{1}{4-\lvert x\rvert}}$	$x\ge\frac{3}{2}\ \wedge\ x\neq 4\ \wedge\ x\neq 8$
133	$y=\sqrt{2x-\sqrt{3-4x}}$	$\frac{1}{2}<x\ \le\frac{3}{4}$
134	$y=\frac{3-x^2}{\sqrt[6]{2x-\lvert 1-4x\rvert}}$	$\frac{1}{6}<x<\frac{1}{2}$
135	$y=\frac{3x^3+1}{\lvert 3x-1\rvert+2}+\frac{2-\lvert x\rvert}{\sqrt{4x-1}}$	$x>\frac{1}{4}$
136	$y=\sqrt[4]{x-2+23\lvert x+1\rvert-\lvert 2x-1\rvert}$	$x\le-\frac{13}{10}\ \vee\ x\ge-\frac{10}{13}$
137	$y=\sqrt{\frac{\lvert -2x-1\rvert-3}{x^2+2x-1}}$	$x<-\sqrt{2}-1\ \vee\ 2\le x<\sqrt{2}-1\ \vee x\ge 1$
138	$y=\sqrt{\sqrt{3-x^2}-\sqrt{2-x}}$	$\frac{1-\sqrt{5}}{2}\le x\le\frac{1+\sqrt{5}}{2}$

Calcolo di domini

PASSED

funzioni logaritmiche ed esponenziali

139	$y = log_2 x$	$x > 0$
140	$y = log_3 x - 1$	$x > 0$
141	$y = log_3(x - 1)$	$x > 1$
142	$y = ln(5 + x)$	$x > -5$
143	$y = log_{\frac{3}{4}}(5 - 2x)$	$x < \frac{5}{2}$
144	$y = log_3 x$	$x > 0$
145	$y = log(x - 3)$	$x > 3$
146	$y = log_{\frac{2}{3}}(1 - x)$	$x < 1$
147	$y = log_2(5 - x) + 1$	$x < 5$
148	$y = x^2 - 2x - log\, x + 5$	$x > 0$
149	$y = ln\, x^2$	$x \neq 0$

150	$y = ln\, x^3$	$x > 0$
151	$y = log \frac{2}{x}$	$x > 0$
152	$y = ln \frac{5-x}{6+x}$	$-6 < x < 5$
153	$y = log \frac{x-2}{x-3}$	$x < 2 \ \vee \ x > 3$
154	$y = log_{\frac{1}{2}} \frac{x-3}{1-x}$	$1 < x < 3$
155	$y = \sqrt{log_2 x}$	$x > 0$
156	$y = log_{\frac{1}{2}} \sqrt[3]{x-2}$	$x > 2$
157	$y = 2^x$	R
158	$y = 2^{x-1}$	R
159	$y = 2^x - 1$	R
160	$y = e^x$	R
161	$y = e^{x^2+x-1}$	R

162	$y = e^{x-1}$	R
163	$y = e^{\pi}$	R
164	$y = e^{5-x}$	R
165	$y = 5^{\frac{3}{x}}$	$x \neq 0$
166	$y = 5^{\frac{x}{3}}$	R
167	$y = \left(\frac{1}{2}\right)^{5x+\sqrt{3}}$	R
168	$y = 5^{\frac{x^2-1}{x-8}}$	$x \neq 8$
169	$y = 8^{\frac{5}{x-2}}$	$x \neq 2$
170	$y = 3^{\frac{x-1}{5-x}}$	$x \neq 5$
171	$y = e^{\frac{x+3}{x-1}}$	$x \neq 1$
172	$y = \left(\frac{1}{5}\right)^{\sqrt{x-2}}$	$x \geq 2$
173	$y = 3^{\sqrt{2x-1}}$	$x \geq \frac{1}{2}$

174	$y = \sqrt{e^{x-1}}$	R
175	$y = log \frac{x^2+5}{3}$	R
176	$y = \pi^x$	R
177	$y = log_{\frac{1}{2}} \sqrt{x-8}$	$x > 8$
178	$y = (-2)^x$	$\emptyset$
179	$y = log_{-2} x$	$\emptyset$
180	$y = 5^{\frac{5x^2-1}{5x-1}}$	$x \neq \frac{1}{5}$
181	$y = \sqrt{2^{2x} - 2^x}$	$x \geq 0$
182	$y = e^{\frac{x+3}{x-1}}$	$x \neq 1$
183	$y = \frac{3^{2x} + 5^{\frac{3x}{x-1}}}{x + \frac{1}{2}}$	$x \neq -\frac{1}{2} \wedge x \neq 1$

184	$y = \sqrt{ln(x+1)}$	$x \geq 0$
185	$y = e^{\frac{x-5}{\lvert 1+x \rvert}} + 5$	$x \neq -1$
186	$y = 6x^2 - ex - 3\,log_4\left(e^x - e^{\sqrt{3}}\right)$	$x > \sqrt{3}$
187	$y = 3x - \frac{2 - ln(x-1)}{4 + ln^2 x}$	$x > 1$
188	$y = \lvert x-5 \rvert e^{\frac{5^x}{2-x}}$	$x \neq 2$
189	$y = \lvert x+6 \rvert\, ln\,\lvert x^2 - 5 \rvert$	$x \neq -\sqrt{5} \ \wedge \ x \neq \sqrt{5}$
190	$y = \frac{\sqrt{3^{4x} + 7 \cdot 3^{2x} + 10}}{7^{\frac{3x-e}{x}}}$	$x \neq 0$
191	$y = x^{\pi}$	$x \geq 0$
192	$y = \left(\sqrt[3]{3}\right)^{lnx}$	$x > 0$
193	$y = \frac{3^{2x} + 3^x - 1}{ln\frac{x+1}{x}}$	$x < -1 \ \vee \ x > 0$
194	$y = 2^{\frac{\sqrt{x^2-e^2}}{x+1}}$	$x < -e \ \vee \ x > e$

195	$y = 3x - e^{\frac{1}{1-\ln x}}$	$x > 0 \ \wedge \ x \neq e$
196	$y = e^{\frac{3}{\ln x - 2}}$	$x > 0 \ \wedge \ x \neq e^2$
197	$y = log_{\frac{1}{2}} \frac{2-x}{9-x^2}$	$-3 < x < 2 \ \vee \ x > 3$
198	$y = log_2 \frac{x+5}{1-x^2}$	$x < -5 \ \vee \ -1 < x < 1$
199	$y = 5^{\frac{x}{2-x^2}}$	$x \neq -\sqrt{2} \ \wedge \ x \neq \sqrt{2}$
200	$y = 2^{\frac{x+1}{x^2-4}}$	$x \neq -2 \ \wedge \ x \neq 2$
201	$y = e^{\frac{\sqrt{x^2-7x+12}}{x-5}}$	$x < 3 \ \vee \ 4 \leq x < 5 \ \vee \ x > 5$
202	$y = \left(\frac{3}{4}\right)^{\sqrt{2-x^2}}$	$-\sqrt{2} \leq x \leq \sqrt{2}$
203	$y = \sqrt{\left(\frac{1}{2}\right)^{\frac{x-3}{x+5}} - \frac{1}{8}}$	$x \leq -9 \ \vee \ x > -5$

204	$y = \dfrac{3^{\frac{1}{x+1}} - 5^x}{\left(\frac{1}{4}\right)^{x^2} - 1}$	$x \neq -1 \ \wedge \ x \neq 0$
205	$y = log_7(e^{2x} - 5e^x + 6) + log_7 \lvert x - 2 \rvert$	$x < ln2 \ \vee \ ln3 < x < 2 \ \vee \ x > 2$
206	$y = \dfrac{log_2(x+1) + 2^{\frac{x}{x-1}}}{2^{\sqrt{x}}}$	$0 \leq x < 1 \ \vee \ x > 1$
207	$y = 2 \cdot 3^x \, ln\left(2x - \sqrt[3]{x}\right) - 3$	$x < -\dfrac{\sqrt{2}}{4} \ \vee \ x > \dfrac{\sqrt{2}}{4}$
208	$y = \dfrac{3^x + ln\, x - 1}{ln^2\, x - 7\, ln\, x + 10}$	$x > 0 \ \wedge \ x \neq e^2 \ \wedge \ x \neq e^5$
209	$y = ln\, ln\, (x - 2)$	$x > 3$
210	$y = ln \dfrac{x^2 - 9}{x - 2} + e^{\sqrt{x^4 - 16}}$	$-3 < x \leq -2 \ \vee \ x > 3$
211	$y = 3^{\frac{x}{5 - \sqrt{x - x^2}}}$	$0 \leq x \leq 1$
212	$y = \sqrt{9 \cdot 3^{2x} - 82 \cdot 3^x + 9}$	$x \leq -2 \ \vee \ x \geq 2$

213	$y = e^x log_{\frac{1}{3}}(3-x) + log_5(1-x^2) + log_5 x$	$0 < x < 1$
214	$y = \sqrt{\frac{ln(2^x - 1)}{3^x - 1}}$	$x \geq 1$
215	$y = \sqrt[4]{log_{\frac{1}{2}}(x^2 - 4) - log_{\frac{1}{2}}(x-1)}$	$2 < x \leq \frac{1+\sqrt{13}}{2}$
216	$y = \frac{x^2 + 2x - 3}{ln^2(2x-3) - 1}$	$x > \frac{3}{2} \wedge x \neq \frac{3+e}{2} \wedge x \neq \frac{1+3e}{2}$
217	$y = \frac{ln\, x - 5}{ln^2 x^2 - 1}$	$x > 0 \wedge x \neq \sqrt{e^{-1}} \wedge x \neq \sqrt{e}$
218	$y = \frac{1 - 3x^2}{ln(5x^2 - 12)}$	$x < -\frac{2\sqrt{15}}{2} \vee x > \frac{2\sqrt{15}}{2} \wedge x \neq \pm\frac{\sqrt{65}}{5}$
219	$y = (e^{2x} - 5e^x + 6)^{x^2 - 3x}$	$x < ln\, 2 \vee x > ln\, 3$
220	$y = \frac{3 + log_4(x^2+1)}{log_x 5}$	$0 < x < 1 \vee x > 1$
221	$y = \sqrt{log_{\frac{1}{3}}(x^2 - 3x - 1)}$	$\frac{3-\sqrt{17}}{2} \leq x < \frac{3-\sqrt{13}}{2} \vee \frac{3+\sqrt{13}}{2} < x \leq \frac{3+\sqrt{17}}{2}$
222	$y = \sqrt{ln\ \lvert x^2 - 9\rvert}$	$x < -\sqrt{10} \vee -2\sqrt{2} \leq x \leq 2\sqrt{2} \vee x > \sqrt{10}$

223	$y = log_3\, log_{\frac{1}{4}}(5x-3)$	$\frac{3}{5} < x < \frac{4}{5}$
224	$y = ln\, ln(x^2-3)$	$x < -2 \vee x > 2$
225	$y = \frac{ln(2-\lvert x-3\rvert)}{\sqrt{log_2 x - 2}}$	$4 < x < 5$
226	$y = \left(\frac{3x-4}{4x-1}\right)^{\frac{x-1}{x-3}}$	$x < \frac{1}{4} \vee \frac{4}{3} < x < 3 \vee x > 3$
227	$y = \frac{2^x+5}{\sqrt{log_3(x-2x^2)+2}}$	$\frac{1}{6} < x < \frac{1}{3}$
228	$y = \frac{\sqrt[3]{2x^2-x+5}}{\sqrt{ln\ \lvert x\rvert}}$	$x < -1 \vee x > 1$
229	$y = \frac{e^{-x^2+3x}}{ln\,(\lvert x^2-2\rvert+3x)}$	$x < -\frac{\sqrt{17}+3}{2} \vee x > \frac{3-\sqrt{17}}{2} \wedge x \neq -\frac{\sqrt{21}+3}{2} \wedge x \neq \frac{3-\sqrt{13}}{2}$
230	$y = \frac{2^{2x}-6}{ln\,\lvert x^2-8\rvert}$	$x \neq \pm 2\sqrt{2} \wedge x \neq \pm 3 \wedge x \neq \pm\sqrt{7}$
231	$y = \frac{ln\sqrt{\frac{x(x-1)}{x+5}}}{e^{\frac{3x}{x+1}}-2}$	$-5 < x < -1 \vee -1 < x < 0 \vee x > 1$

232	$y = \sqrt[3]{\frac{2^{\frac{x(x+2)}{2-x}} - 1}{log_3(\lvert x \rvert - 1)}}$	$x < -1 \ \vee \ x > 1 \ \wedge \ x \neq \pm 2$
233	$y = \left(log_{\frac{2}{3}}(x-3)\right)^{\frac{x+2}{x}}$	$3 < x < 4$

funzioni goniometriche

234	$y = sin\, x$	R
235	$y = cos\, x$	R
236	$y = tan\, x$	$x \neq \frac{\pi}{2} + k\pi$
237	$y = cot\, x$	$x \neq k\pi$
238	$y = sin\, x + 6$	R
239	$y = cos\, x - 9$	R
240	$y = 6x^2 - tan\, x$	$x \neq \frac{\pi}{2} + k\pi$
241	$y = 2sin\, x\, cos\, x + 8$	R
242	$y = -8\, tan\, x - 2\, cos\, x + x^2$	$x \neq \frac{\pi}{2} + k\pi$
243	$y = \frac{2}{sin\, x}$	$x \neq k\pi$

244	$y = \sqrt[3]{6 + \cos x}$	R
245	$y = \dfrac{2 + x^2 - 4x}{\sin x}$	$x \neq k\pi$
246	$y = 4\sin x - 3\cos 3x$	R
247	$y = \sin\left(x^2 - \dfrac{\pi}{6}\right)$	R
248	$y = \sec x$	$x \neq \dfrac{\pi}{2} + k\pi$
249	$y = \csc x$	$x \neq k\pi$
250	$y = \arcsin x$	$-1 \leq x \leq 1$
251	$y = \arccos x$	$-1 \leq x \leq 1$
252	$y = \arctan x$	R
253	$y = \operatorname{arccot} x$	R
254	$y = \arcsin 2x$	$-\dfrac{1}{2} \leq x \leq \dfrac{1}{2}$
255	$y = \arccos \dfrac{x}{3}$	$-3 \leq x \leq 3$
256	$y = \arctan(2x + 1)$	R
257	$y = \operatorname{arccot}(5x - 2)$	R

258	$y = \sqrt{x} + arccos\, x$	$0 \leq x \leq 1$
259	$y = \frac{arctan\, x + sin\, x}{2 + x}$	$x \neq -2$
260	$y = sec\, 3x$	$x \neq \frac{\pi}{6} + k\frac{\pi}{3}$
261	$y = arccos \frac{x+1}{x-2}$	$x \leq \frac{1}{2}$
262	$y = 3^{\frac{1}{cos\, x}}$	$x \neq \frac{\pi}{2} + k\pi$
263	$y = \frac{3x-1}{sin\, x}$	$x \neq k\pi$
264	$y = ln\, (sin\, x - 1)$	$\emptyset$
265	$y = \frac{2 - cos^4 x}{sin^2 x + 2}$	R
266	$y = \frac{sin\, 3x + 2}{cos\, 2x - 1}$	$x \neq k\pi$
267	$y = sin\, x\, cos\, x$	R
268	$y = sin\, cos\, ln\, x$	$x > 0$
269	$y = log_{10}\, tan\, x$	$\frac{\pi}{4} + k\pi < x < \frac{\pi}{2} + k\pi$
270	$y = \sqrt{-cos\, 2x}$	$\frac{\pi}{4} + k\pi \leq x \leq \frac{3}{4}\pi + k\pi$

271	$y = \sqrt[6]{\cos x}$	$-\frac{\pi}{2} + 2k\pi < x < \frac{\pi}{2} + 2k\pi$
272	$y = arctan\left\|\frac{2-5x}{3-x}\right\|$	$x \neq 3$
273	$y = \frac{1+\tan x}{\sqrt{\cos^2 x - 1}}$	$\emptyset$
274	$y = \frac{arcsin\, x - \pi}{x^2 - 1}$	$-1 < x < 1$
275	$y = arccot\sqrt{x^2 - 9}$	$x \leq -3 \ \vee \ x \geq 3$
276	$y = \sqrt{arcsin(x-2)}$	$2 \leq x \leq 3$
277	$y = \frac{2\cos x - 1}{\sin x + 1}$	$x \neq \frac{3}{2}\pi + 2k\pi$
278	$y = log_2(-\sin 3x)$	$\frac{\pi}{3} + \frac{2}{3}k\pi < x < \frac{2}{3}\pi + \frac{2}{3}k\pi$
279	$y = ln\, sin\left(x - \frac{\pi}{2}\right)$	$\frac{\pi}{2} + 2k\pi < x < \frac{3}{2}\pi + 2k\pi$
280	$y = ln\, arctan\, x$	$x > 0$
281	$y = \frac{\cos x}{\|1 - \cos x\|}$	$x \neq 2k\pi$
282	$y = \frac{(x-1)\cos x}{\cos^6 x + \sin^2 x}$	R
283	$y = arcsin\cos x$	R
284	$y = (x-1)\, arctan\frac{x-1}{x+3}$	$x \neq -3$

285	$y = 5x + arctan\dfrac{2x-3}{3x+5}$	$x \neq -\dfrac{5}{3}$
286	$y = arctan(ln\,(x+1)^2)$	$x \neq -1$
287	$y = sin\left(\dfrac{3}{2}x\right) + ln\,cos(2x)$	$-\dfrac{\pi}{4} + k\pi < x < \dfrac{\pi}{4} + k\pi$
288	$y = log_7(cotx - \sqrt{3})$	$k\pi < x < \frac{\pi}{6} + k\pi$
289	$y = 2^{\sqrt{\left\lvert\frac{sIn\,x}{1-2\,cos\,x}\right\rvert}}$	$x \neq \pm\dfrac{\pi}{3} + 2k\pi$
290	$y = \sqrt{\dfrac{1-cos\,x}{1-sin\,x}}$	$x \neq \dfrac{\pi}{2} + 2k\pi$
291	$y = \dfrac{5 - 2cos\frac{x}{2}}{sin\left(\frac{x}{2}\right) + \frac{\sqrt{3}}{2}}$	$x \neq -\dfrac{2}{3}\pi + 4k\pi \ \wedge \ x \neq \dfrac{8}{3}\pi + 4k\pi$
292	$y = 2 - \dfrac{cos\,x - \sqrt{3}}{tan\,x + 1}$	$x \neq -\dfrac{\pi}{4} + k\pi \ \wedge \ x \neq \dfrac{\pi}{2} + k\pi$
293	$y = tan\dfrac{x}{3} - \dfrac{2+x}{2\,cot\,x}$	$x \neq \dfrac{3\pi}{2} + 3k\pi \ \wedge \ x \neq \dfrac{\pi}{2} + k\pi$

294	$y = \frac{\tan x \cos x}{1 - \sin x \cot x}$	$x \neq 2k\pi$
295	$y = \frac{2}{\sqrt{\cos\frac{x}{2} - \frac{1}{2}}}$	$-\frac{2\pi}{3} + 4k\pi < x < \frac{2\pi}{3} + 4k\pi$
296	$y = ln\left(1 - 2cos\frac{x}{2}\right)$	$\frac{2}{3}\pi + 4k\pi < x \leq \frac{10}{3}\pi + 4k\pi$
297	$y = arcsin\left(1 - \sqrt{x+3}\right)$	$-3 \leq x \leq 1$
298	$y = \frac{2cos\, x + 3\, sin\, x}{5arctan\,(2lnx)}$	$x > 0 \quad \wedge \quad x \neq 1$
299	$y = csc\, x + arcsin\, x$	$-1 \leq x \leq 1 \quad \wedge \quad x \neq 0$
300	$y = tan(x-3) + \sqrt{ln(x^2+1)}$	$x \neq \frac{\pi}{2} + 3 + k\pi$
301	$y = arcsin(9 - x^2)$	$-\sqrt{10} \leq x \leq -2\sqrt{2} \quad \vee \quad 2\sqrt{2} \leq x \leq \sqrt{10}$
302	$y = arcsin\frac{3\, ln\, x + 1}{ln\, x - 1}$	$\frac{1}{e} \leq x \leq 1$
303	$y = log_2\, arcos\, ln\, x$	$\frac{1}{e} \leq x < e$

304	$y = arcsin\, ln\, x - ln\, arcsin\, x$	$\frac{1}{e} \leq x \leq 1$
305	$y = \sqrt{sin\, x + cos\, x}$	$-\frac{\pi}{4} + 2k\pi \leq x \leq \frac{3}{4}\pi + 2k\pi$
306	$y = \sqrt{\frac{2\, sin\, x - 1}{cot\, x}}$	$\frac{\pi}{6} + 2k\pi \leq x < \frac{\pi}{2} + 2k\pi \ \vee$ $\frac{5}{6}\pi + 2k\pi \leq x < (2k+1)\pi) \ \vee$ $+2k\pi < x < 2(k+1)\pi$
307	$y = arcsin \frac{3}{x^2 - 4}$	$x \leq -\sqrt{7} \vee -1 \leq x \leq 1 \ \vee \ x \geq \sqrt{7}$
308	$y = \frac{3\, sin\, x + cos\, x}{\sqrt[4]{\lvert\, tan\, x - \sqrt{3}\rvert}}$	$x \neq \frac{\pi}{3} + k\pi \ \wedge \ x \neq \frac{\pi}{2} + k\pi$
309	$y = arccos \frac{1}{tan\, x}$	$\frac{\pi}{4} + k\pi \leq x \leq \frac{3}{4}\pi + k\pi$
310	$y = \sqrt{\frac{cos\, x}{1 - cos\, 2x}}$	$2k\pi < x \leq \frac{\pi}{2} + 2k\pi \ \vee$ $\frac{3}{2}\pi + 2k\pi \leq x < 2\pi + 2k\pi$
311	$y = log_3\, arcsin(e^x - 2)$	$ln2 < x \leq ln3$
312	$y = \frac{cos\, x}{ln\lvert cos\, x\rvert}$	$x \neq \frac{\pi}{2}k$
313	$y = log_3(tan\, x + 3\, cot\, x - 4)$	$k\pi < x < \frac{\pi}{4} + k\pi \ \vee$ $arctg3 < x < \frac{\pi}{2} + k\pi$

314	$y = arccot\left(3x - 2\sqrt[4]{5-7x}\right)$	$x \leq \frac{5}{7}$
315	$y = \frac{1-2\,sin^2\,x}{1-2\cos x}$	$x \neq \frac{\pi}{3} + 2k\pi \ \wedge \ x \neq \frac{5}{3}\pi + 2k\pi$
316	$y = arcsin\sqrt{x-2x^2}$	$0 \leq x \leq \frac{1}{2}$
317	$y = \sqrt{\sqrt{3}sin^2x - sin\,x\cos x}$	$\frac{\pi}{6} + k\pi \leq x \leq (k+1)\pi$
318	$y = \frac{3-tan\,x}{sin\,2x - cos\,x}$	$x \neq \frac{5\pi}{6} + 2k\pi \ \wedge \ x \neq \frac{\pi}{6} + 2k\pi \wedge x \neq \frac{\pi}{2} + k\pi$
319	$y = cot\frac{x}{2}\left(1 - \frac{tan^2x}{\sqrt{1-tan\,x}}\right)$	$-\frac{\pi}{2} + k\pi < x < \frac{\pi}{4} + k\pi \wedge x \neq k\pi$
320	$y = \sqrt[4]{\frac{sin\,x\cos x - 1}{\sqrt{3} - cot\,x}}$	$k\pi < x < \frac{\pi}{6} + k\pi$

esercizi di riepilogo

321	$y = ln\sqrt{x}$	$x > 0$
322	$y = \sqrt[3]{\cos x}$	$-\frac{\pi}{2} + k\pi < x < \frac{\pi}{2} + k\pi$
323	$y = log_{\frac{1}{2}}\sqrt{x-1}$	$x > 1$

324	$y = \sqrt{log_2 x}$	$x \geq 1$
325	$y = \frac{2x^3 - 5x^2 + 1}{\sqrt{x}}$	$x > 0$
326	$y = sin \sqrt[3]{x^2 - 2}$	R
327	$y = \frac{5x^4 - 6x^2 + 2}{x^2 - 12x + 36}$	$x \neq 6$
328	$y = \sqrt{\cos x}$	R
329	$y = 5^{-x}$	R
330	$y = 5^{-\sqrt[3]{x-2}}$	R
331	$y = 2^{\frac{sin\, x}{1-x}}$	$x \neq 1$
332	$y = \left(\frac{1}{5}\right)^{\frac{2\, cos\, x+2}{5\, sin\, x}}$	$x \neq k\pi$
333	$y = \frac{\sqrt{cos\, x}}{x}$	$-\frac{\pi}{2} + k\pi < x < \frac{\pi}{2} + k\pi \ \wedge \ x \neq 0$
334	$y = \sqrt[11]{\frac{x^2 + 2x - 1}{x^2 - 3x - 18}}$	$x \neq -3 \ \wedge \ x \neq 6$

335	$y = \frac{\sqrt{x^2+1}}{\sqrt[3]{x^2-1}}$	$x \neq \pm 1$
336	$y = \sqrt[3]{2xe^x - 2x}$	R
337	$y = \sqrt{5 - log_3(x+1)}$	$-1 < x \leq 242$
338	$y = 1 - e^{\frac{\sin x}{\cos^2 x - 1}}$	$x \neq k\pi$
339	$y = \sqrt{arcsin\frac{2x^2}{x+1}}$	$-\frac{1}{2} \leq x \leq 1$
340	$y = ln\, arctan\, x$	$x > 0$
341	$y = x^{2^x+3}$	$x > 0$
342	$y = ln\left(\frac{4^x - 2^x}{5^x + 3}\right)$	$x > 0$
343	$y = \left(\frac{1}{5}\right)^{arccos\, ln\, x}$	$\frac{1}{e} \leq x \leq e$
344	$y = ln(x)^{\frac{lnx}{x}}$	$x > 1$
345	$y = arctan\, arccos\, sin\frac{1}{x}$	$x \neq 0$

346	$y = sin\, ln\, cos\, x$	$-\frac{\pi}{2} + 2k\pi < x < \frac{\pi}{2} + 2k\pi$
347	$y = \sqrt[4]{\frac{x^2 - 4}{4 - 3x}}$	$x \leq -2 \ \vee \ \frac{4}{3} < x \leq 2$
348	$y = \frac{\sqrt{1 - 2x^2}}{arccos(7x - 1)}$	$0 \leq x < \frac{2}{7}$
349	$y = \frac{arctan(\sqrt{x} - 5)}{ln\ \lvert 5 - x^2 \rvert}$	$0 \leq x < \sqrt{6} \vee x > \sqrt{6} \ \wedge$ $x \neq 2 \ \wedge \ x \neq \sqrt{5}$
350	$y = \left(\frac{x+1}{x^2}\right)^{senx}$	$x > -1 \ \wedge \ x \neq 0$
351	$y = \sqrt{2 - log_2(x + 2)}$	$-2 < x \leq 2$
352	$y = \frac{\sqrt{log_2(x - 1)}}{sin\, x\, (cos\, x - 1)}$	$x \geq 2 \wedge x \neq k\pi$
353	$y = \frac{\sqrt{e^{\frac{1}{2}tan\, x}}}{log_3(x^2 - x) - 2}$	$x < 0 \vee x > 1 \ \wedge \ x \neq \frac{\pi}{2} + k\pi \ \wedge$ $x \neq \frac{1 \pm \sqrt{37}}{2}$
354	$y = \sqrt{1 - \sqrt{2 - \sqrt{3 - x}}}$	$-1 \leq x \leq 2$
355	$y = \frac{ln\, sin\, x}{ln\, cos\, x}$	$2k\pi < x < \frac{\pi}{2} + 2k\pi$

356	$y = \sqrt{1 + \frac{\pi}{arcsin\, x}}$	$0 < x \leq 1$
357	$y = \frac{\sqrt[3]{3 - arcsin\, x}}{\sqrt[4]{arctan\frac{x}{2} + \pi}}$	$-1 \leq x \leq 1$
358	$y = \frac{x - 1}{\pi - \lvert arctan\, x \rvert}$	R
359	$y = arctan\sqrt{\frac{x^2 - 4}{x - 1}}$	$-2 \leq x < 1 \ \vee \ x \geq 2$
360	$y = \frac{x(x-3)}{2\, arccos\, x - \pi}$	$-1 \leq x < 0 \ \vee \ 0 < x \leq 1$
361	$y = \sqrt[3]{\frac{x^2 - 1}{\lvert 4 - x^2 \rvert}}$	$x \neq -2 \ \wedge \ x \neq 2$
362	$y = \sqrt{\frac{x^2 - 1}{2x + 1}} + \sqrt{\frac{3x}{2 - x^2}}$	$1 \leq x < \sqrt{2}$
363	$y = \left[log_{\frac{1}{3}}(x^2 - 3)\right]^e$	$-2 \leq x < -\sqrt{3} \ \vee \ \sqrt{3} \leq x < 2$
364	$y = \sqrt{2 - \lvert e^x - 3 \rvert}$	$0 \leq x \leq ln5$
365	$y = \frac{1}{arccos\,(2x)} - \frac{1}{arcsin\,(3x)}$	$-\frac{1}{3} \leq x \leq \frac{1}{3} \ \wedge \ x \neq 0$

366	$y = ln\frac{x^2-9}{x-2} + e^{\sqrt{x^4-16}}$	$-3 < x \leq -2 \ \vee \ x > 3$
367	$y = \sqrt{\frac{2\cos^2 x + 3\sin x - 3}{1 - 2\sin^2 x - \cos x}}$ $con\ x \in [0,2\pi]$	$0 < x \leq \frac{\pi}{6} \ \vee \ \frac{2}{3}\pi < x \leq \frac{5}{6}\pi \ \vee \ \frac{4}{3}\pi < x < 2\pi$
368	$y = (\sin x - \cos x)^{ln\sqrt{2\sin x - 1}}$ $con\ x \in [0,2\pi]$	$\frac{\pi}{4} \leq x < \frac{5}{6}\pi$
369	$y = \sqrt{x + 1 - \sqrt[3]{x^3 + 2x^2 + 3x + 6}}$	$x \leq -\sqrt{5} \ \vee \ x \geq \sqrt{5}$
370	$y = \frac{5}{x-1} ln\frac{e^x - 1}{x - 1}$	$x < 0 \ \vee \ x > 1$
371	$y = arccos[ln(1-x) - ln(x+1)]$	$\frac{1-e}{1+e} \leq x \leq \frac{e-1}{e+1}$
372	$y = arcsin\frac{\tan^2 x}{3}$	$-\frac{\pi}{3} + k\pi \leq x \leq \frac{\pi}{3} + k\pi$
373	$y = \sqrt{arcsin\, ln(x+2)}$	$-1 \leq x \leq e - 2$
374	$y = \sqrt{\frac{x^3 - 1}{x^2 - 9x + 18}} + e^{\frac{1}{\tan x}}$	$1 \leq x < 3 \ \vee \ x > 6 \wedge x \neq k\frac{\pi}{2}$
375	$y = \frac{\tan ln\, 2x}{ln\, \tan 2x}$	$k\frac{\pi}{2} < x < \frac{\pi}{8} + k\frac{\pi}{2} \ \vee$ $\frac{\pi}{8} + k\frac{\pi}{2} < x < \frac{\pi}{4} + k\frac{\pi}{2} \ \wedge$ $x \neq \frac{1}{2}e^{\frac{\pi}{2} + k\pi} \quad k \in N$

376	$y = \sqrt{log_{\frac{1}{2}} arccos\, x + log_2 \frac{\pi}{3}}$	$\frac{1}{2} \leq x < 1$
377	$y = \frac{\sqrt{arcsin\, x - \frac{\pi}{3}}}{ln\, x}$	$\frac{\sqrt{3}}{2} \leq x < 1$
378	$y = \frac{1}{2\, ln\, 3x - 1} + ln\, arcsin\, x$	$0 < x < \frac{\sqrt{e}}{3} \vee \frac{\sqrt{e}}{3} < x \leq 1$
379	$y = 1 - e^{\lvert sin\, x \rvert - 1} + e^{\frac{1}{\sqrt{1 - tan\, x}}}$	$-\frac{\pi}{2} + k\pi < x < \frac{\pi}{4} + k\pi$
380	$y = ln(\lvert x^2 - x \rvert - 4) + arccos\, ln\, x$	$\frac{1 + \sqrt{17}}{2} < x \leq e$
381	$y = arcsin \frac{ln\, x - 1}{ln\, x - 2}$	$0 < x \leq e\sqrt{e}$
382	$y = \sqrt{log_3^2\, x - \lvert log_3\, x - 2 \rvert}$	$0 < x \leq \frac{1}{9} \vee x \geq 3$
383	$y = \frac{x^2 + 1 + \sqrt{8 - x^3}}{\sqrt{3 - x} - x + 3}$	$x \leq 2$
384	$y = log_3(3 - \lvert x - 3 - \lvert x - 2 \rvert \rvert)$	$x > 1$
385	$y = [log_2(x^2 - 4x + 4)]^{\sqrt{2}}$	$x \leq 1 \vee x \geq 3$
386	$y = ln(2sin^2\, x - sin\, x - 1)$ $con\ x \in [0,2\pi]$	$\frac{7}{6}\pi < x < \frac{11}{6}\pi$

387	$y = arccos(x^2 - 10x + 1)$	$0 \le x \le 5 - \sqrt{23} \ \vee \ 5 + \sqrt{23} \le x \le 10$
388	$y = arcsin\, tan\, x + \dfrac{1}{arccos\, sin\, x}$	$-\dfrac{\pi}{4} + k\pi \le x \le \dfrac{\pi}{4} + k\pi$
389	$y = \sqrt{\dfrac{arcsin\ 2x}{arctan\, x - \dfrac{\pi}{3}}}$	$-\dfrac{1}{2} \le x \le 0$
390	$y = ln(\lvert x^2 - x \rvert - 4) + arccos\, ln\, x$	$\dfrac{1 + \sqrt{17}}{2} < x \le e$

esercizi di riepilogo più impegnativi

391	$y = log_{x-5}\,(x - 2)$	$5 < x < 6 \ \vee \ x > 6$
392	$y = \sqrt{3x - \lvert x - \lvert 2x^2 - 1 \rvert \rvert}$	$\dfrac{\sqrt{6} - 2}{2} \le x \le \dfrac{\sqrt{6} + 2}{2}$
393	$y = \sqrt{log_2(\lvert x + 3 \rvert - 3) - log_2(\lvert x + 7 \rvert + 1)}$	$x \le -7$
394	$y = arccos\left(-3 + \sqrt{24\, sin^2\, x - 2}\right)$	$\dfrac{\pi}{6} + k\pi \le x \le \dfrac{\pi}{3} + k\pi \ \vee$ $-\dfrac{\pi}{3} + k\pi \le x \le -\dfrac{\pi}{6} + k\pi$
395	$y = \sqrt{log_{x-1} \dfrac{3x^2 + 10x + 3}{11}}$	$x > 2$
396	$y = \dfrac{ln\left(\sqrt{9x^2 - 30x + 25} - \sqrt{x^2 + 5x - 6}\right)}{x - 3 - \sqrt{x^2 - 4}}$	$x \le 6 \ \vee \ 1 \le x < \dfrac{35 - \sqrt{233}}{16} \ \vee$ $x > \dfrac{35 + \sqrt{233}}{16}$

397	$y = \frac{\sqrt{\frac{\pi}{4} - arctan\, sin\, x}}{\lvert cot\, 2x \rvert - \sqrt{3}}$	$x \neq \pm\frac{\pi}{12} + k\frac{\pi}{2} \ \wedge \ x \neq k\frac{\pi}{2}$
398	$y = e^{\sqrt{\frac{sin^2 x - \frac{1}{2}}{cos^3 x}}}$	$\frac{\pi}{4} + 2k\pi \leq x < \frac{\pi}{2} + 2k\pi \ \vee$ $\frac{3\pi}{4} + 2k\pi \leq x \leq \frac{5\pi}{4} + 2k\pi \ \vee$ $\frac{3\pi}{2} + 2k\pi < x \leq \frac{7\pi}{4} + 2k\pi$
399	$y = \sqrt{\frac{ln\, arctan(x^2 - x) - ln\frac{\pi}{4}}{e^{\frac{1}{2x}} - 1}}$	$\frac{1-\sqrt{5}}{2} \leq x < 0 \ \vee \ x \geq \frac{1+\sqrt{5}}{2}$
400	$y = \sqrt{log_{\frac{1}{2}} arccos\, x + log_2 \frac{\pi}{3}}$	$\frac{1}{2} \leq x < 1$
401	$y = \frac{1}{\sqrt[4]{x^2 - 5x + 6} - \sqrt{x-1}}$	$1 \leq x < \frac{5}{3} \ \vee \ \frac{5}{3} < x \leq 2 \ \vee \ x \geq 3$
402	$y = \frac{\sqrt{x^2 - 2x + 1} - 3}{\sqrt{\lvert x \rvert} - \sqrt{x+1}}$	$-1 \leq x < -\frac{1}{2} \ \vee \ x > -\frac{1}{2}$
403	$y = \frac{\lvert x - 1 \rvert + \sqrt{x}}{\sqrt{3 - \lvert x^2 - 5x + 6 \rvert} - \sqrt{x+1}}$	$\frac{5-\sqrt{13}}{2} \leq x \leq \frac{5+\sqrt{13}}{2} \ \wedge \ x \neq 2$
404	$y = \frac{\sqrt{x + \lvert x^2 - 1 \rvert} - 3}{\sqrt{x + \sqrt{x-1}}}$	$x \geq 1$

405	$y = \sqrt{\dfrac{x^2 - \lvert x+3 \rvert}{\sqrt{x-1} + \lvert x+3 \rvert}}$	$x \geq \dfrac{1+\sqrt{13}}{2}$
406	$y = \sqrt{x - \sqrt{2x+3}} + \sqrt{x^3 - 3x^2}$	$x \geq 3$
407	$y = \sqrt[4]{x^5 + x^3} + \sqrt{\sqrt{3x-2} - 5}$	$x \geq 9$
408	$y = \sqrt{\dfrac{log_{\frac{1}{2}}(x-3) + 2}{3 + log_{x+1} 5}}$	$3 < x \leq 7$
409	$y = ln\ \lvert ln\ \lvert x \rvert \rvert$	$x \neq -1\ \wedge\ x \neq 0\ \wedge\ x \neq 1$
410	$y = ln\left(2 - \left\lvert \dfrac{x}{1-3x} \right\rvert\right)$	$x < \dfrac{2}{7}\ \vee\ x > \dfrac{2}{5}$
411	$y = \sqrt{\dfrac{log_x \lvert x-5 \rvert}{e^{ln \frac{2x(x-4)}{x+1}}}}$	$x \geq 6$
412	$y = \dfrac{3 + e^{-\frac{x^2-3x+2}{x-6}}}{log_{\frac{3}{4}} \sqrt{x^2 - \frac{1}{4}}}$	$x < -\dfrac{1}{2}\ \vee\ x > \dfrac{1}{2}\ \wedge$ $x \neq \pm\dfrac{\sqrt{5}}{2}\ \wedge\ x \neq 6$

413	$y=\frac{\sqrt{\sin x\left(\cos x-\frac{1}{2}\right)}}{\lvert\tan x\rvert-1}$	$2k\le x\le\frac{\pi}{3}+2k\pi \ \vee$ $\pi+2k\pi\le x\le\frac{5\pi}{3}+2k\pi\wedge$ $x\neq\frac{3}{2}\pi+2k\pi \ \wedge \ x\neq\frac{\pi}{4}+k\pi$
414	$y=\frac{\sqrt{\lvert\cos x\rvert-\frac{1}{2}}}{e^{\frac{1}{\sin x}}}$	$-\frac{\pi}{3}+k\pi\le x\le\frac{\pi}{3}+k\pi \ \wedge \ x\neq k\pi$
415	$y=\frac{ln(\lvert\sin x\rvert-1)}{ln\sqrt{\cos x}}$	$\emptyset$
416	$y=e^{\frac{\tan x}{\lvert\cos x\rvert-\frac{\sqrt{2}}{2}}}$	$x\neq\frac{\pi}{2}+k\pi \ \wedge \ x\neq\frac{\pi}{4}+k\frac{\pi}{2}$
417	$y=\frac{\sqrt{arcsin(2\lvert x\rvert-1)}}{ln(2x^3-x)}$	$-\frac{\sqrt{2}}{2}\le x\le-\frac{1}{2} \ \vee \ \frac{\sqrt{2}}{2}<x<1$
418	$y=\frac{ln\,ln(\lvert x-1\rvert-5)}{1-e^{\frac{x}{\sqrt{x-\lvert1-x\rvert}}}}$	$x>7$
419	$y=\frac{1}{3}\frac{ln\,ln\frac{1}{\sqrt{x^2+3x-10}}}{\sqrt{\lvert x-1\rvert-x^2}}$	$\emptyset$
420	$y=\frac{\sqrt[x]{e^{x+1}+3}}{\sqrt{x^2-4x+4}}$	$x>0 \ \wedge \ x\neq2 \ \wedge \ x\in N$
421	$y=\frac{\left\lvert ln\frac{x^2+x-1}{x-2}-1\right\rvert}{\sqrt{x}}$	$0<x<\frac{1}{2}(\sqrt{5}-1) \ \vee \ x>2$

422	$y = e^x \, ln\left(2^{\frac{x^2-1}{2x}} + x^{e^x}\right)$	$x > 0$
423	$y = ln\left(sin\, x - \frac{\sqrt{3}}{2}\right) + ln\sqrt{cos\, x} - ln\left(tan\frac{x}{2} + 1\right)$	$\frac{\pi}{3} + 2k\pi < x < \frac{\pi}{2} + 2k\pi$
424	$y = log_{\frac{1}{2}} \frac{x^2-1}{x^2+1} + 3^{\frac{x}{\sqrt{x-1}}} \, log_2 \frac{1}{x+2} - \sqrt{2}\, e^{\frac{1}{ln\, x}} \, log_2 \sqrt{\frac{x}{x+1}}$	$x > 1$
425	$y = \sqrt{log_a(x^2+2x+4) - log_a(x^2+x+3)} + log_a\left(a^{x^2+3x} - a^4\right)$ $con\ a \in R^+ - \{1\}$	$se\ a > 1 \ \rightarrow \ x > 1$ $se\ 0 < a < 1 \ \rightarrow \ -4 \leq x \leq -1$