Analisi Equazione retta tangente al grafico di una funzione PASSED

	determinare l'equazione della retta tangente al grafico della funzione nel punto x_0		
1	$y = x^3$	$x_0 = -1$	$y = 3x + 2$
2	$y = x^4 - x^3 + 1$	$x_0 = 1$	$y = x$
3	$y = 2x^2 - 8x + \frac{1}{2}$	$x_0 = 2$	$y = -\frac{15}{2}$
4	$y = 5x^3 + 7x^2 - 14x - 3$	$x_0 = 1$	$y = 15x - 20$
5	$y = \frac{x-3}{2x+1}$	$x_0 = -2$	$y = \frac{7}{9}x + \frac{29}{9}$
6	$y = \frac{x^2-3}{x^2+5}$	$x_0 = \sqrt{3}$	$y = \frac{\sqrt{3}}{4}x - \frac{3}{4}$
7	$y = \frac{x^2-2}{2-x}$	$x_0 = 1$	$y = x - 2$
8	$y = (x^4 - 2x^3 + x^2 - 1)^2$	$x_0 = 2$	$y = 72x - 135$
9	$y = \frac{x^3 - x^2 + 2x - 2}{1 - x}$	$x_0 = -2$	$y = 4x + 2$
10	$y = \sqrt{x} + 2x$	$x_0 = 9$	$y = \frac{13}{6}x + \frac{3}{2}$

11	$y = 3x - 2 - \sqrt{x-1}$	$x_0 = 2$	$y = \frac{5}{2}x - 2$
12	$y = \sqrt{\frac{2-x}{x-3}}$	$x_0 = \frac{5}{2}$	$y = 2x - 4$
13	$y = \sqrt[3]{x-5}$	$x_0 = 7$	$y = \frac{\sqrt[3]{2}}{6}x - \frac{\sqrt[3]{2}}{6}$
14	$y = \sqrt[3]{x^2-1}$	$x_0 = 3$	$y = \frac{1}{2}x + \frac{1}{2}$
15	$y = \sqrt[3]{x^2+1}$	$x_0 = \frac{1}{2}$	$y = \frac{4}{15}\sqrt[3]{\frac{5}{4}}\left(x - \frac{1}{2}\right) + \sqrt[3]{\frac{5}{4}}$ $y = \frac{2}{3}\sqrt[3]{\frac{2}{25}}\left(x - \frac{1}{2}\right) + \sqrt[3]{\frac{5}{4}}$
16	$y = \lvert x^2 - 4x - 5 \rvert$	a) $x_0 = 3$ b) $x_0 = -3$ c) $x_0 = 5$	*a)* $y = -2x + 14$ *b)* $y = -10x - 14$ *c) non è calcolabile*
17	$y = x\,e^x$	$x_0 = 1$	$y = 2ex - e$
18	$y = x^3 e^{2x-2}$	$x_0 = 1$	$y = 5x - 4$
19	$y = e^{\frac{x-1}{2x-3}}$	$x_0 = 2$	$y = -ex + 3e$

20	$y = 2x - 3e^{3x}$	$x_0 = 0$	$y = -7x - 3$
21	$y = \frac{2}{x^2} - e^x$	$x_0 = -1$	$y = \frac{4e-1}{e}(x+1) + \frac{2e-1}{e}$
22	$y = a^{2x-3}$ $(a > 0 \wedge a \neq 1)$	$x_0 = 2$	$y = a(2x\ln a - 4\ln a + 1)$
23	$y = x^2 \ln x$	$x_0 = 1$	$y = x - 1$
24	$y = ln\,(x^5 + 3x + 4)$	$x_0 = 0$	$y = \frac{3}{4}x + ln4$
25	$y = ln(4x - 1)$	$x_0 = 2$	$y = ln7 + \frac{4}{7}(x-2)$
26	$y = x\,ln\,x - 2x + 3$	$x_0 = e$	$y = 3 - e$
27	$y = ln\frac{2x+1}{x-1}$	$x_0 = -1$	$y = ln\frac{1}{2} - \frac{3}{2}(x+1)$
28	$y = log_2\frac{x-3}{x^2+1}$	$x_0 = 4$	$y = \frac{9}{17ln2}x - \frac{36+17ln17}{17ln2}$
29	$y = \frac{ln^2 x}{x}$	$x_0 = 3$	$y = \frac{2ln3 - ln^2 3}{9}x - \frac{2ln3 - 2ln^2 3}{3}$
30	$y = \sqrt{ln\,x} + 3e^{x-1}$	$x_0 = 1$	*non è calcolabile*

31	$y = x + \sin x$	$x_0 = \frac{\pi}{2}$	$y = x + 1$
32	$y = sin\,2x - cos\,x$	$x_0 = \frac{\pi}{2}$	$y = \frac{\pi}{2} - x$
33	$y = sin\,2x - cos\,x$	$x_0 = \frac{\pi}{4}$	$y = \sqrt{2}\left(x - \frac{\pi}{4}\right) + 1 - \sqrt{2}$
34	$y = e^{1-cos\,x}$	$x_0 = \frac{\pi}{2}$	$y = e\left(x + 1 - \frac{\pi}{2}\right)$
35	$y = \frac{\cos x - \sin x}{\cos x + \sin x}$	$x_0 = \frac{\pi}{4}$	$y = -x + \frac{\pi}{4}$
36	$y = x + 2\tan x$	$x_0 = \pi$	$y = 3x - 2\pi$
37	$y = 2 + \cot x$	$x_0 = \frac{\pi}{4}$	$y = -2x + \frac{\pi}{2} + 3$
38	$y = arctan(x^2 + 1)$	$x_0 = 0$	$y = \frac{\pi}{4}$
39	$y = arctan(x^2 + 1)$	$x_0 = 1$	$y = \frac{2}{5}(x - 1) + arctan\,2$
40	$y = \frac{arcsin(2x - 1)}{x}$	$x_0 = \frac{1}{2}$	$y = 4x - 2$

41	$y = arcsin\left(\frac{x-2}{x-3}\right)$	$x_0 = 2$	$y = -x + 2$