OS | MAC OS
Developent platform | XCODE
Language | C++

h	Error in $f'(x{=}1)$ by Eq. (1) where $f(x) = x^2$	Error in $f'(x{=}1)$ by Eq. (1) where $f(x) = x^2 + 10^8$	Error in $f'(x{=}1)$ by Eq. (2) where $f(x) = x^2$	Error in $f'(x{=}1)$ by Eq. (2) where $f(x) = x^2 + 10^8$
10^{-1}	5%	2.24E-08	2.24E-08	2.24E-08
10^{-2}	0.50%	2.09E-07	2.09E-07	2.09E-07
10^{-3}	0.05%	0.00%	0.00%	0.00%
10^{-4}	0.01%	0.00%	0.00%	0.00%
10^{-5}	0.00%	0.01%	0.01%	0.01%
10^{-6}	5.00E-07	0.16%	0.16%	0.16%
10^{-7}	5.05E-08	3.14%	3.14%	3.14%
10^{-8}	6.08E-09	25.49%	25.49%	25.49%
10^{-9}	8.27E-08	100%	100%	100%
10^{-10}	8.27E-08	100%	100%	100%
10^{-11}	8.27E-08	100%	100%	100%
10^{-12}	0.01%	100%	100%	100%
10^{-13}	0.08%	100%	100%	100%
10^{-14}	0.08%	100%	100%	100%
10^{-15}	11.02%	100%	100%	100%
10^{-16}	100%	100%	100%	100%
10^{-17}	100%	100%	100%	100%
10^{-18}	100%	100%	100%	100%

h	Error in $f'(x{=}1)$ by Eq. (3)	Error in $f'(x{=}1)$ by Eq. (4)	Error in $f'(x{=}1)$ by Eq. (5)	η by Eq. (6)	η by Eq. (7)
2^{-4}	6.38%	13.02%	0.26%	2.04082	2.11765
2^{-5}	3.16%	6.38%	0.07%	2.02062	2.06061
2^{-6}	1.57%	3.16%	0.02%	2.01036	2.03077
2^{-7}	0.78%	1.57%	0.00%	2.00519	2.0155
2^{-8}	0.39%	0.78%	0.00%	2.0026	2.00778
2^{-9}	0.20%	0.39%	0.00%	2.0013	2.0039
2^{-10}	0.10%	0.20%	6.36E-07	2.00065	2.00195
2^{-11}	0.05%	0.10%	1.59E-07	2.00033	2.00098
2^{-12}	0.02%	0.05%	3.97E-08	2.00016	2.00049
2^{-13}	0.01%	0.02%	9.93E-09	2.00008	2.00024
2^{-14}	0.01%	0.01%	2.48E-09	2.00004	2.00012
2^{-15}	0.00%	0.01%	6.21E-10	2.00002	2.00006
2^{-16}	0.00%	0.00%	1.55E-10	2.00001	2.00003
2^{-17}	0.00%	0.00%	3.88E-11	2.00001	2.00002

2^{-18}	0.00%	0.00%	0%	2.00001	2.00001
2^{-19}	0.00%	0.00%	0%	2	2.00001
2^{-20}	9.54E-07	0.00%	0%	2	2
2^{-21}	4.77E-07	9.54E-07	0%	2	2
2^{-22}	2.38E-07	4.77E-07	0%	2	2
2^{-23}	1.19E-07	2.38E-07	0%	2	2
2^{-24}	5.96E-08	1.19E-07	0%	2	2
2^{-25}	2.98E-08	5.96E-08	0%	2	2
2^{-26}	1.49E-08	2.98E-08	0%	2	2
2^{-27}	0%	1.49E-08	1.99E-08	inf	1
2^{-28}	0%	0%	0%	nan	inf
2^{-29}	0%	0%	0%	nan	nan
2^{-30}	0%	0%	0%	nan	nan
2^{-31}	0%	0%	0%	nan	nan
2^{-32}	0%	0%	0%	nan	nan
2^{-33}	0%	0%	0%	nan	nan
2^{-34}	0%	0%	0%	nan	nan
2^{-35}	0%	0%	0%	nan	nan
2^{-36}	0%	0%	0%	nan	nan
2^{-37}	0%	0%	0%	nan	nan
2^{-38}	0%	0%	0%	nan	nan
2^{-39}	0%	0%	0%	nan	nan
2^{-40}	0%	0%	0%	nan	nan