|  |  |  |
| --- | --- | --- |
|  | BiSection |  |
| * Problem Statement | For the function f(x). | |
| * Requirements | Use the Bisection method in the interval [-1.0,0.0] to find the root of this equation. Continue for 150 iterations or until the approximate error undetermined, where the exact root within the interval is .=unKnown. | |
| * Solution: * The formula of the bisection method is:   For the first iteration the initial guesses interval -1.0,0.0  (-1.0 + (0.0))÷ 2 = -0.5  ---    The 1st iteration doesn’t have either nor , as there isn’t a previous approximation.  -1.0 -3.97600  -0.5-1.00350  Since 3.98992 > then xl -0.25.  For the second iteration the initial guesses interval -0.5,0.0  (-0.5 + (0.0)) ÷ 2 = -0.125    100.0  -0.5 -1.00350  -0.25-0.43225  Since 0.43376 > then xl -0.25.  For the third iteration the initial guesses interval -0.25,0.0  (-0.25 + (0.0)) ÷ 2 = -0.125    100.0  -0.25 -0.43225  -0.125-0.17686  Since 0.07645 > then xl -0.125.  Then, the root of the function after achieving the required conditions is :  -0.04975  And so on for the rest iterations until reaching a termination condition, as the following table: | | |
|  | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| iteration | x lower | x upper | x root | f(xl) | f(xr) | Et(%) | Ea(%) |
| 0 | -1.0 | 0.0 | -0.5 | -3.97600000000000 | -1.00350000000000 | --- | --- |
| 1 | -0.5 | 0.0 | -0.25 | -1.00350000000000 | -0.432250000000000 | --- | 100.0 |
| 2 | -0.25 | 0.0 | -0.125 | -0.432250000000000 | -0.176859375000000 | --- | 100.0 |
| 3 | -0.125 | 0.0 | -0.0625 | -0.176859375000000 | -0.0319082031250000 | --- | 100.0 |
| 4 | -0.0625 | 0.0 | -0.03125 | -0.0319082031250000 | 0.0479831542968750 | --- | 100.0 |
| 5 | -0.0625 | -0.03125 | -0.046875 | -0.0319082031250000 | 0.00732717895507812 | --- | 33.33333333333333 |
| 6 | -0.0625 | -0.046875 | -0.0546875 | -0.0319082031250000 | -0.0124611625671387 | --- | 14.285714285714285 |
| 7 | -0.0546875 | -0.046875 | -0.05078125 | -0.0124611625671387 | -0.00261051988601685 | --- | 7.6923076923076925 |
| 8 | -0.05078125 | -0.046875 | -0.048828125 | -0.00261051988601685 | 0.00234733933210374 | --- | 4.0 |
| 9 | -0.05078125 | -0.048828125 | -0.0498046875 | -0.00261051988601685 | -0.000134324304759487 | --- | 1.9607843137254901 |
| 10 | -0.0498046875 | -0.048828125 | -0.04931640625 | -0.000134324304759487 | 0.00110582231637091 | --- | 0.9900990099009901 |
| 11 | -0.0498046875 | -0.04931640625 | -0.049560546875 | -0.000134324304759487 | 0.000485577917774233 | --- | 0.49261083743842365 |
| 12 | -0.0498046875 | -0.049560546875 | -0.0496826171875 | -0.000134324304759487 | 0.000175584060911227 | --- | 0.2457002457002457 |
| 13 | -0.0498046875 | -0.0496826171875 | -0.04974365234375 | -0.000134324304759487 | 2.06191949782830e-5 | --- | 0.1226993865030675 |
| 14 | -0.0498046875 | -0.04974365234375 | -0.049774169921875 | -0.000134324304759487 | -5.68552252523113e-5 | --- | 0.06131207847946045 |
| 15 | -0.049774169921875 | -0.04974365234375 | -0.0497589111328125 | -5.68552252523113e-5 | -1.81186827790114e-5 | --- | 0.030665440049064706 |
| 16 | -0.0497589111328125 | -0.04974365234375 | -0.04975128173828125 | -1.81186827790114e-5 | 1.25008918269720e-6 | --- | 0.015335071308081582 |
| 17 | -0.0497589111328125 | -0.04975128173828125 | -0.049755096435546875 | -1.81186827790114e-5 | -8.43433852659725e-6 | --- | 0.007666947788085563 |
| 18 | -0.049755096435546875 | -0.04975128173828125 | -0.04975318908691406 | -8.43433852659725e-6 | -3.59213510414680e-6 | --- | 0.0038336208548974504 |
| 19 | -0.04975318908691406 | -0.04975128173828125 | -0.049752235412597656 | -3.59213510414680e-6 | -1.17102556881910e-6 | --- | 0.0019168471697751537 |
| 20 | -0.049752235412597656 | -0.04975128173828125 | -0.04975175857543945 | -1.17102556881910e-6 | 3.95311549050703e-8 | --- | 0.0009584327707332968 |
| 21 | -0.049752235412597656 | -0.04975175857543945 | -0.049751996994018555 | -1.17102556881910e-6 | -5.65747369951630e-7 | --- | 0.0004792140888942135 |
| 22 | -0.049751996994018555 | -0.04975175857543945 | -0.049751877784729004 | -5.65747369951630e-7 | -2.63108148268465e-7 | --- | 0.00023960761856383988 |
| 23 | -0.049751877784729004 | -0.04975175857543945 | -0.04975181818008423 | -2.63108148268465e-7 | -1.11788506840238e-7 | --- | 0.00011980395281161908 |
| 24 | -0.04975181818008423 | -0.04975175857543945 | -0.04975178837776184 | -1.11788506840238e-7 | -3.61286785210968e-8 | --- | 5.990201228829881e-05 |
| 25 | -0.04975178837776184 | -0.04975175857543945 | -0.04975177347660065 | -3.61286785210968e-8 | 1.70123756748630e-9 | --- | 2.9951015114779774e-05 |
| 26 | -0.04975178837776184 | -0.04975177347660065 | -0.049751780927181244 | -3.61286785210968e-8 | -1.72137206433387e-8 | --- | 1.4975505314731959e-05 |
| 27 | -0.049751780927181244 | -0.04975177347660065 | -0.049751777201890945 | -1.72137206433387e-8 | -7.75624159343735e-9 | --- | 7.4877532180304195e-06 |
| 28 | -0.049751777201890945 | -0.04975177347660065 | -0.049751775339245796 | -7.75624159343735e-9 | -3.02750199909774e-9 | --- | 3.743876749181336e-06 |
| 29 | -0.049751775339245796 | -0.04975177347660065 | -0.04975177440792322 | -3.02750199909774e-9 | -6.63132215805717e-10 | --- | 1.8719384096322014e-06 |
| 30 | -0.04975177440792322 | -0.04975177347660065 | -0.049751773942261934 | -6.63132215805717e-10 | 5.19052661962505e-10 | --- | 9.359692135764843e-07 |
| 31 | -0.04975177440792322 | -0.049751773942261934 | -0.04975177417509258 | -6.63132215805717e-10 | -7.20397907993942e-11 | --- | 4.6798460459814625e-07 |
| 32 | -0.04975177417509258 | -0.049751773942261934 | -0.049751774058677256 | -7.20397907993942e-11 | 2.23506463337131e-10 | --- | 2.3399230284659707e-07 |
| 33 | -0.04975177417509258 | -0.049751774058677256 | -0.04975177411688492 | -7.20397907993942e-11 | 7.57333362688684e-11 | --- | 1.1699615128641756e-07 |
| 34 | -0.04975177417509258 | -0.04975177411688492 | -0.04975177414598875 | -7.20397907993942e-11 | 1.84680049031272e-12 | --- | 5.8498075608988525e-08 |
| 35 | -0.04975177417509258 | -0.04975177414598875 | -0.04975177416054066 | -7.20397907993942e-11 | -3.50964812767529e-11 | --- | 2.9249037795939203e-08 |
| 36 | -0.04975177416054066 | -0.04975177414598875 | -0.049751774153264705 | -3.50964812767529e-11 | -1.66248681487957e-11 | --- | 1.4624518900108365e-08 |
| 37 | -0.049751774153264705 | -0.04975177414598875 | -0.049751774149626726 | -1.66248681487957e-11 | -7.38903382924150e-12 | --- | 7.312259450588874e-09 |
| 38 | -0.049751774149626726 | -0.04975177414598875 | -0.04975177414780774 | -7.38903382924150e-12 | -2.77114442504001e-12 | --- | 3.6561297254281104e-09 |
| 39 | -0.04975177414780774 | -0.04975177414598875 | -0.04975177414689824 | -2.77114442504001e-12 | -4.62185845151453e-13 | --- | 1.8280648627474733e-09 |
| 40 | -0.04975177414689824 | -0.04975177414598875 | -0.049751774146443495 | -4.62185845151453e-13 | 6.92307322580632e-13 | --- | 9.140324313820912e-10 |
| 41 | -0.04975177414689824 | -0.049751774146443495 | -0.04975177414667087 | -4.62185845151453e-13 | 1.15074616502397e-13 | --- | 4.5701621568895696e-10 |
| 42 | -0.04975177414689824 | -0.04975177414667087 | -0.049751774146784555 | -4.62185845151453e-13 | -1.73555614324528e-13 | --- | 2.2850810784395632e-10 |
| 43 | -0.049751774146784555 | -0.04975177414667087 | -0.04975177414672771 | -1.73555614324528e-13 | -2.92543766988729e-14 | --- | 1.142540539221087e-10 |
| 44 | -0.04975177414672771 | -0.04975177414667087 | -0.04975177414669929 | -2.92543766988729e-14 | 4.29378754773779e-14 | --- | 5.7127026961086985e-11 |
| 45 | -0.04975177414672771 | -0.04975177414669929 | -0.0497517741467135 | -2.92543766988729e-14 | 6.80011602582908e-15 | --- | 2.8563513480535334e-11 |
| 46 | -0.04975177414672771 | -0.0497517741467135 | -0.049751774146720606 | -2.92543766988729e-14 | -1.12132525487141e-14 | --- | 1.4281756740265628e-11 |
| 47 | -0.049751774146720606 | -0.0497517741467135 | -0.049751774146717054 | -1.12132525487141e-14 | -2.19269047363468e-15 | --- | 7.140878370133324e-12 |
| 48 | -0.049751774146717054 | -0.0497517741467135 | -0.04975177414671528 | -2.19269047363468e-15 | 2.30371277609720e-15 | --- | 3.570439185066789e-12 |
| 49 | -0.049751774146717054 | -0.04975177414671528 | -0.049751774146716166 | -2.19269047363468e-15 | 8.32667268468867e-17 | --- | 1.7852195925333628e-12 |
| 50 | -0.049751774146717054 | -0.049751774146716166 | -0.04975177414671661 | -2.19269047363468e-15 | -1.08246744900953e-15 | --- | 8.926097962666733e-13 |
| 51 | -0.04975177414671661 | -0.049751774146716166 | -0.04975177414671639 | -1.08246744900953e-15 | -4.71844785465692e-16 | --- | 4.4630489813333874e-13 |
| 52 | -0.04975177414671639 | -0.049751774146716166 | -0.04975177414671628 | -4.71844785465692e-16 | -2.22044604925031e-16 | --- | 2.2315244906666982e-13 |
| 53 | -0.04975177414671628 | -0.049751774146716166 | -0.04975177414671622 | -2.22044604925031e-16 | -8.32667268468867e-17 | --- | 1.1157622453333505e-13 |
| 54 | -0.04975177414671622 | -0.049751774146716166 | -0.04975177414671619 | -8.32667268468867e-17 | 0 | --- | 5.578811226666756e-14 |
| 55 | -0.04975177414671622 | -0.04975177414671619 | -0.04975177414671621 | -8.32667268468867e-17 | -2.77555756156289e-17 | --- | 2.789405613333377e-14 |
| 56 | -0.04975177414671622 | -0.04975177414671621 | -0.049751774146716214 | -8.32667268468867e-17 | -5.55111512312578e-17 | --- | 1.3947028066666881e-14 |
| 57 | -0.04975177414671622 | -0.049751774146716214 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 1.3947028066666881e-14 |
| 58 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 59 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 60 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 61 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 62 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 63 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 64 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 65 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 66 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 67 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 68 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 69 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 70 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 71 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 72 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 73 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 74 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 75 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 76 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 77 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 78 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 79 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 80 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 81 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 82 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 83 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 84 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 85 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 86 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 87 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 88 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 89 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 90 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 91 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 92 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 93 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 94 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 95 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 96 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 97 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 98 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 99 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 100 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 101 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 102 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 103 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 104 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 105 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 106 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 107 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 108 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 109 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 110 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 111 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 112 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 113 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 114 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 115 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 116 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 117 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 118 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 119 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 120 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 121 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 122 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 123 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 124 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 125 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 126 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 127 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 128 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 129 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 130 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 131 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 132 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 133 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 134 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 135 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 136 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 137 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 138 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 139 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 140 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 141 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 142 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 143 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 144 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 145 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 146 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 147 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 148 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 149 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |
| 150 | -0.04975177414671622 | -0.04975177414671622 | -0.04975177414671622 | -8.32667268468867e-17 | -8.32667268468867e-17 | --- | 0.0 |

