

Table 1: Function Comparison for Various Degrees of Polynomial

| Degree of Polynomial (n) | $x_0$ | $f_1(x_0)$          | Time for $f_1$ (seconds) | $f_2(x_0)$          | Time for $f_2$ (seconds) |
|--------------------------|-------|---------------------|--------------------------|---------------------|--------------------------|
| 100                      | 0.0   | 0.9258892400289273  | 0.006329208              | 0.9258892400289273  | 0.016880167              |
| 100                      | 0.5   | 1.28120385934354    | 2.375e-6                 | 1.2812038593435409  | 4.667e-6                 |
| 100                      | 1.0   | 51.85590689791619   | 1.292e-6                 | 51.855906897916206  | 3.334e-6                 |
| 1000                     | 0.0   | 0.9258892400289273  | 3.792e-6                 | 0.9258892400289273  | 4.6334e-5                |
| 1000                     | 0.5   | 1.28120385934354    | 3.958e-6                 | 1.2812038593435409  | 3.7e-5                   |
| 1000                     | 1.0   | 505.1857229145582   | 3.042e-6                 | 505.1857229145585   | 3.1833e-5                |
| 10000                    | 0.0   | 0.9258892400289273  | 3.9916e-5                | 0.9258892400289273  | 0.000426541              |
| 10000                    | 0.5   | 1.28120385934354    | 2.3292e-5                | 1.2812038593435409  | 0.0003975                |
| 10000                    | 1.0   | 5049.8165470184695  | 2.7459e-5                | 5049.816547018467   | 0.000413791              |
| 100000                   | 0.0   | 0.9258892400289273  | 0.000285083              | 0.9258892400289273  | 0.004539                 |
| 100000                   | 0.5   | 1.28120385934354    | 0.000215                 | 1.2812038593435409  | 0.004405875              |
| 100000                   | 1.0   | 49879.96548158193   | 0.000215                 | 49879.96548158325   | 0.004487167              |
| 1000000                  | 0.0   | 0.9258892400289273  | 0.002223375              | 0.9258892400289273  | 0.04568675               |
| 1000000                  | 0.5   | 1.28120385934354    | 0.002038584              | 1.2812038593435409  | 0.045635125              |
| 1000000                  | 1.0   | 499703.6424329252   | 0.001977333              | 499703.6424329407   | 0.045716                 |
| 10000000                 | 0.0   | 0.9258892400289273  | 0.021016542              | 0.9258892400289273  | 0.501311042              |
| 10000000                 | 0.5   | 1.28120385934354    | 0.020179083              | 1.2812038593435409  | 0.509581625              |
| 10000000                 | 1.0   | 4.996752044441569e6 | 0.020326208              | 4.996752044442139e6 | 0.63360925               |
| 100000000                | 0.0   | 0.9258892400289273  | 0.20558675               | 0.9258892400289273  | 5.243562042              |
| 100000000                | 0.5   | 1.28120385934354    | 0.198649167              | 1.2812038593435409  | 5.265932458              |
| 100000000                | 1.0   | 4.999420706068843e7 | 0.197288125              | 4.999420706069504e7 | 5.248553041              |
| 1000000000               | 0.0   | 0.9258892400289273  | 2.137910208              | 0.9258892400289273  | 55.69954                 |
| 1000000000               | 0.5   | 1.28120385934354    | 1.96500975               | 1.2812038593435409  | 57.40881175              |
| 1000000000               | 1.0   | 5.000014457559075e8 | 1.93866575               | 5.000014457555265e8 | 56.321996208             |