Andrew Alferman

ME 526 HW #1

Table of Finite Difference Approximation for Problem 3.b)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| h value | Numerical Evaluation | Exact Value | Absolute Error | Calculated Truncation Error |
| 0.00001 | -0.283662122 | -7.091554637 | -2608375239 | -7.99104E-09 |
| 0.0001 | -0.283662184 | -7.091554637 | -26083745.37 | -7.99104E-07 |
| 0.001 | -0.283662091 | -7.091554637 | -260830.433 | -7.99104E-05 |
| 0.01 | -0.28365273 | -7.091554637 | -2601.283691 | -0.007991036 |
| 0.1 | -0.282717905 | -7.091554637 | -18.99219782 | -0.799103562 |

Plot of Absolute Error vs. Grid Spacing for Problem 3.b)