# Exercise 1

Given the equation:

1. Use the Trapezoidal Rule to obtain approximated :
2. Tabulate results and compare *n* and the error .

|  |  |  |
| --- | --- | --- |
|  |  |  |
| True | 1.718281828 | 0 |
|  | 1.7272219045575166 | 0.008940076098471472 |
|  | 1.7188411285799945 | 0.000559300120949402 |
|  | 1.7183167868500941 | 3.495839104905585e-05 |
|  | 1.7182840133668198 | 2.184907774704925e-06 |
|  | 1.718281965015813 | 1.3655676789348092e-07 |
|  | 1.7182818369938453 | 8.53480019991082e-09 |

1. Is there any relationship between the error and the number of segments?

# Exercise 2

1. Tabulate results and compare *n* and the error .

|  |  |  |
| --- | --- | --- |
|  |  |  |
| True | 1.718281828 | 0 |
|  | 1.718318841921747 | 3.701392174693119e-05 |
|  | 1.718281974051892 | 1.4605189191385648e-07 |
|  | 1.7182818290280149 | 1.0280147844099474e-09 |
|  | 1.7182818284612673 | 4.612672466208778e-10 |
|  | 1.7182818284590546 | 4.590545721327999e-10 |
|  | 1.7182818284590455 | 4.5904546830399795e-10 |

1. Is there any relationship between the error and the number of segments?