

$$f(x)=7x^3$$

| Forward Divided Difference |         |            |
|----------------------------|---------|------------|
| h                          | f'(2)   | True Error |
| <b>0.256</b>               | 95.2108 | -11.2108   |
| <b>0.128</b>               | 89.4907 | -5.49069   |
| <b>0.064</b>               | 86.7167 | -2.71667   |
| <b>0.032</b>               | 85.3512 | -1.35117   |
| <b>0.016</b>               | 84.6738 | -0.67379   |
| <b>0.008</b>               | 84.3364 | -0.33645   |
| <b>0.004</b>               | 84.1681 | -0.16811   |
| <b>0.002</b>               | 84.084  | -0.08403   |
| <b>0.001</b>               | 84.042  | -0.04201   |

| Backward Divided Difference |        |            |
|-----------------------------|--------|------------|
| h                           | f'(2)  | True Error |
| <b>0.256</b>                | 73.707 | 10.293     |
| <b>0.128</b>                | 78.739 | 5.261      |
| <b>0.064</b>                | 81.341 | 2.659      |
| <b>0.032</b>                | 82.663 | 1.337      |
| <b>0.016</b>                | 83.330 | 0.670      |
| <b>0.008</b>                | 83.664 | 0.336      |
| <b>0.004</b>                | 83.832 | 0.168      |
| <b>0.002</b>                | 83.916 | 0.084      |
| <b>0.001</b>                | 83.958 | 0.042      |

| Central Divided Difference |        |            |
|----------------------------|--------|------------|
| h                          | f'(2)  | True Error |
| <b>0.256</b>               | 84.459 | -0.459     |
| <b>0.128</b>               | 84.115 | -0.115     |
| <b>0.064</b>               | 84.029 | -0.029     |
| <b>0.032</b>               | 84.007 | -0.007     |
| <b>0.016</b>               | 84.002 | -0.002     |
| <b>0.008</b>               | 84.000 | 0.000      |
| <b>0.004</b>               | 84.000 | 0.000      |
| <b>0.002</b>               | 84.000 | 0.000      |
| <b>0.001</b>               | 84.000 | 0.000      |