

Quiz 7

Name:

Directions: Answer each question to the best of your ability. You may use a calculator, but you must show all work to receive full credit. Each question is worth 5 points

1. Find the first 4 non-zero terms of the Taylor series of $\sin x$ about $x = \pi$.

2. Find the first 4 non-zero terms of the Taylor series of $\frac{1}{1-x^3}$ about $x = 0$.

3. Find the n^{th} term of the Taylor series of $\frac{d}{dx}e^{x^2}$ about $x = 0$

4. Find the error at $x = 1$ on the first 4 non-zero terms of the Taylor series of $\sin x$ centered at $x = 0$

5. Determine the number of terms of the Taylor series for $f(x)$ necessary to approximate $\sin 1$ to the nearest .000000001.