

Read each question carefully and be sure to SHOW ALL WORK. Correct answer without proper justification will not receive a “Complete” grade. Pac fat! Good luck!

Name: _____

LO 10. Power Series Representations [CORE]. I can represent functions as power series and vice versa represent power series as functions in order to solve various application questions.

Criteria for Success: I can

- use geometric series, Taylor series, binomial series, and formulas derived from them to go back and forth between a function and a power series representation
- find a series exact sum by plugging into the appropriate power series representation
- find a Taylor polynomial of a specified degree to approximate a given function
- solve limit or integral questions using power series

Question: The following integral is not possible to solve using Calculus 2 techniques of integration. Approximate the solution by using the Taylor polynomial of degree 4 of the inside function. Clearly show how you computed the Taylor polynomial of the inside function.

$$\int_0^1 3x \cos(4\sqrt{x}) dx =$$