

Homework 12 - Math 142, Frank Thorne (thornef@mailbox.sc.edu)

Due Tuesday, November 19

- (a) Read and summarize Chapter 20 of Thompson's book. What, if any, substantial differences are there between Thompson's treatment and Stewart's?
- (b) What is a power series?
- (c) Describe an example of a power series which converges for all values of x .
- (d) Describe an example of a power series which converges only for some values of x .
- (e) Are there any power series which converge for no values of x ?
- (f) What is the radius of convergence of a power series? How do you find it?
- (g) 11.8, 5-18. However, you do not have to test the endpoints of the interval for convergence.

Additional problems:

- (a) Stewart, 11.8, 19-24.

Bonus: Using Google, Wikipedia, your other coursework, or any other sources, give examples of computations from the natural sciences where power series play an important role.