

Physics 263: BTM Problem Set #8

This assignment addresses Please ask questions! It is due by 5:30pm in the box in 1011 on Tuesday, April 25.

1. **BTM Problem 4.3.1.** This problem is about the “radius of convergence” of power series, which is all that is new from Chapter 4 that we’re going to use.
2. **BTM Problem 4.3.4.** Just a basic application of the same sort of Taylor expansion we’ve been using.
3. **BTM Problem 4.3.6.** A useful application of a Taylor expansion to develop *perturbation theory* for a pendulum.
4. **BTM Problems 5.2.3 and 5.2.4.** A couple of warm-up problems for complex numbers in Cartesian $(x + iy)$ form.
5. **BONUS: BTM Problem 5.2.5.**