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Assignment 6 - Power series and complex exponentials
Due February 26th

1. (1 pt each) Find the radius of convergence of the following series and determine if it is convergent, divergent or erratic on the boundary:

   a) $\sum_{n=0}^{\infty} z^n \cos n$

   b) $\sum_{n=0}^{\infty} \frac{z^n}{n}$

   c) $\sum_{n=0}^{\infty} \frac{z^n}{n^2}$

2. (1 pt each) Express the following functions as both power series and in $f(x+iy) = u(x,y) + iv(x,y)$ form:

   a) $f(z) = e^{(z^2)}$

   b) $f(z) = (e^z)^2$