

M417

Fall 1996

hw8.tex due October 25, 1996

Using anything that you know to find the radius of convergence. You need not find the coefficients!

1.  $\tan(z) = \sum_{n=0}^{\infty} a_n z^n, |z| < ?$ .

2.  $\text{Log}(z) = \sum_{n=0}^{\infty} a_n (z - 1)^n, |z - 1| < ?$

3.  $\text{Arctan}(z) = \sum_{n=0}^{\infty} a_n z^n, |z| < ?$

4.  $\text{Log}(z) = \sum_{n=0}^{\infty} a_n (z - 2i)^n, |z - 2i| < ?$

5.  $\frac{1}{1 + z^2} = \sum_{n=0}^{\infty} a_n (z - 3)^n, |z - 3| < ?$