

Complex Analysis Math 147—Winter 2006
Assignment 11
due March 10, 2008

1. Find all entire functions f that satisfy $f(x) = e^x$ for $z = x + i0 \in \mathbf{R}$.
2. Let f and g be analytic functions defined on a polygonally connected open set D and suppose $f(z)g(z) = 0$ for every $z \in D$. Show that either $f(z) = 0$ for all $z \in D$ or $g(z) = 0$ for all $z \in D$.
3. Suppose that f is analytic on $\{|z| < 2\}$. Show that there must exist some positive integer n such that $f(1/n) \neq 1/(n+1)$.