1. Arfken Chapter 6 : 3.3, 4.1, 4.3, 4.4

2. If a function \( f(z) \) is analytic on and within a closed contour \( C \) show that unless it is a constant it takes on its maximum value on \( C \).
   
   Hint: Assume that \( f(z) \) takes its maximum value at a point \( z_0 \) inside \( C \) and prove a contradiction by integrating on a circle around \( z_0 \) that is inside of \( C \).