Q1. Show that the function \( f(z) = e^x \cos y + ie^y \sin y \) is analytic in an appropriate domain.

Q2. Find all values of \( z \) satisfying \( \sin z = 2 \).
Q3. Evaluate \( \int_C (2z - z) \, dz \) where \( C \) is \( x = -t, \ y = t^2 + 2, \ 0 \leq t \leq 2 \).