Differential Geometry of Curves and Surfaces

Homework 13

Due on January 10

1. Write the parameterizations and the first fundamental forms explicitly as functions of (u, v) for the minimal surfaces corresponding to the following Weierstrass-Enneper data, where, as usual, $w = u + iv$:

    (a) $f(w) = 2$, $g(w) = 0$.

    (b) $f(w) = 2$, $g(w) = w$.

    (c) $f(w) = -ie^w$, $g(w) = ie^{-w}$.

    (d) $f(w) = -e^w$, $g(w) = ie^{-w}$.