Exercise Sheet 2

1. a) Compute k_1, k_2, H and K for the catenoid.

    b) Compute k_1, k_2, H and K for the helicoid.

2. a) Find a local isometry

    $$\varphi : \text{helicoid} \to \text{catenoid} .$$

    b) Verify that φ preserves K. What does it do to the principle curvatures and principle directions?

Due on Wednesday October 8(resp. Friday October 10)