1 Surface 2

Problem 1.1. *A surface is either a sphere or plane* $\Leftrightarrow H^2 = K$.

Solution. ◀

Problem 1.2. *The helicoid* $\vec{r} = (u\cos v, u\sin v, bv)$ *is a minimal surface. And*

Solution. ◀

Problem 1.3. *If the ?? surface* $\vec{r} = (u\cos v, u\sin v, \phi(v))$ *is a minimal surface, then it must be the helicoid.*

Solution. ◀

Problem 1.4. *A surface is a minimal surface* $\Leftrightarrow$ *there exist two families of orthogonal asymptotes.*

Solution. ◀