Homework Set 4, Math 526
Due: April 6, 2017

(1) Chapter 6, p139: 2, 3, 5, 11.

(2) Let $L \subset \mathbb{S}^n \subset \mathbb{R}^{n+1}$ be an immersion. Define the cone $C(L)$ over L by

$$C(L) = \{rx : r \geq 0, x \in L\}$$

and call L the link of $C(L)$. Find the relation between the mean curvatures of $C(L) \subset \mathbb{R}^{n+1}$ (away from the origin), $L \subset \mathbb{R}^{n+1}, L \subset \mathbb{S}^n$.

(3) Chapter 7, p.153: 9, 10