Homework 3. Due October 28.

1. Let $\mathcal{H}$ be the set of all halfspaces in $\mathbb{R}^d$. Prove that the VC dimension of $\mathcal{H}$ is $d + 2$.

2. Let $\mathcal{C}$ be the set of all polygons on $\mathbb{R}^d, d > 1$, with at most $K$ sides. Show that $\mathcal{C}$ is a VC class.

Problems 2.6.9 on page 151; 2.7.2 and 2.7.3 on page 165; 2.9.1 and 2.9.2 on page 186 in the textbook.