Chapter 1, Problems 1,3,4,5. Additional problems:

A) Find the probability that in $n$ flips of a fair coin the number of heads is even.

B) Find the probability that the number of flips to get the first head is even.

C) Let $\mathcal{E}$ be the collection of intervals in $\mathbb{R} = (-\infty, \infty)$ of type $(r, \infty)$ where $r$ is an arbitrary rational number. Prove that $\sigma(\mathcal{E}) = \mathcal{B}(\mathbb{R})$, where $\sigma(\mathcal{E})$ denotes the smallest $\sigma$-field containing $\mathcal{E}$. 