

Due In Class: Thursday, September 25

Reading: Start reading Chapter 3 in the textbook.

Turn in the following problems. Exercise a.b refers to Exercise b in Chapter a of the textbook.

Problem A: Exercise 2.22.

Problem B: Let $(\mathcal{CB}, \text{HD})$ denote the metric space of nonempty closed and bounded subsets of \mathbb{R}^2 , equipped with the Hausdorff distance, as defined in HW 3. Prove that $(\mathcal{CB}, \text{HD})$ is separable.

Problem C: Exercise 2.20. *You must prove your assertions.*

Problem D: Exercise 2.21. *Recall that convex sets are defined on p. 31 of the textbook.*

Problem E: Exercise 3.1.