

Please explain briefly but clearly your reasoning (unless it is totally obvious from your answer, i.e., when you have to list the elements of a set or to draw a set in the plane).

Please write the problems in the same order as they are given in the assignment.

Note that the odd-numbered problems have answers at the end of Hammack's book. I strongly suggest that you do *all* odd-numbered problems for practice; moreover, many of them are very similar to the assigned homework problems.

Hammack, Section 1.1: Exercises 8, 10, 16 (see Example 1.2), 20, 28, 30 (explain, list all the elements), 38, 50, 52.

Hammack, Section 1.2: Exercises 2(f,g,h), 6, 8, 10, 12, 16, 20.

Hammack, Section 1.3: Exercises 2, 4, 8, 16.

Hammack, Section 1.4: Exercise 10, 12, 16, 18, 19 (explain, list all the elements of the sets $\mathcal{P}(A \times \emptyset)$, $\mathcal{P}(\mathcal{P}(A \times \emptyset))$, $\mathcal{P}(\mathcal{P}(\mathcal{P}(A \times \emptyset)))$).

Hammack, Section 1.5: Exercise 4(a,d,e,f,g), 6.

Remark: In Exercise 6, recall that the boundaries of planar sets are denoted with a solid line if the points on them belong to the set, and with a dashed line otherwise.