1. Do problems 6, 7, 8 (i), 9 (ii), 10 (ii), 10 (iii) on pages 6—8.

2. Do problems 1—10 on pages 14 and 15.

3. Do problems 1—7 on pages 21 and 22.

4. Prove that the set of all subintervals of $\mathbb{R}$ with rational endpoints is countable.

5. Prove that any collection of pairwise disjoint open rectangles in $\mathbb{R}^2$ is countable.

6. Let $\mathcal{C}$ be a family of circles on the plane such that no two cross each other. Then the points where two circles from $\mathcal{C}$ touch each other form a countable set.