

Problems marked by * are required for graduate students, optional for undergraduates.

From DeGroot and Schervish:

Sec. 1.4 (p. 12): #1,4,6; Sec. 1.5 (p. 18): #4,5,6,9,13*; Sec. 1.6 (p. 22): #2,6

Notes: a) a Venn diagram may be used to convince yourself that a result is correct but does not constitute a formal proof, with the following exception: b) while you should make a formal argument that AB and AB^c are disjoint in problem 4, p. 12, you do not have to make such a formal argument every time you want to use the fact that two or more sets are disjoint (for example, to use Theorem 1.5.2). You may do as the text does which is simply to state the fact or to use a Venn diagram to show it, as at the bottom of p. 15.

Additional problems:

Write R simulations to verify your answers to problems 2 and 6 in Sec. 1.6. In addition, write an R simulation to estimate the probability in problem 13 of the “Counting and Probability Problems” handout. Please copy and paste your R commands and output into your homework and write a one sentence summary of your simulation results. All simulations should have at least 100,000 replications and should not use any interior loops.