

Homework 1

Math 262, fall 2022

due at classtime on September 20

Write your solutions to the following problems clearly and neatly. Make sure to explain your reasoning and provide mathematical details that support your answers. For a few tips on writing solutions, see [this helpful guide for mathematical writing](#).

You may write or type your solutions electronically, or write them on paper and scan or photograph them. Upload a single file containing your solutions to the [Homework 1](#) assignment on Moodle.

Book Problems

- Section 1.1 #1, 2, 6, 11 (pages 5–7)
- Section 1.2 #15, 17, 19, 24 (page 15–17)
- Section 1.3 #31, 32, 33 (pages 25–26)

Note: For #15, A_i is the event that project i is awarded (and possibly other projects are awarded as well). For #19, assume that events A and B are disjoint.

Additional Problem

There are n socks (3 of which are red) in a drawer. What is the value of n such that when 2 of the socks are chosen, the probability that both are red is $\frac{1}{2}$? What assumptions are being made?