

HW problems outside of the book (Due to Sep. 17, Friday)

1. The weather forecast says there is a 40% probability of rain today and a 30% probability of rain tomorrow. Assume that rain today and tomorrow are independent.

- (a) What is the probability of rain on both days?
- (b) What is the probability of rain on neither day?
- (c) What is the probability of rain on at least one day?

2. The following is a probability distribution of the number of defects on a given contact lens produced in one shift on a production line.

number of defects	0	1	2	3	4
probability	0.5	0.2	0.15	0.1	0.05

Let the event A be that one defect occurred, and B be the event that 2,3, or 4 defects occurred. Find:

- (a) $P(A)$ and $P(B)$
- (b) $P(A \cup B)$