

## List of selected exercises

### 1 Recommended Exercises from JR

502, 503, 504, 505, 508, 509, 512, 513, 516, 517

### 2 In-class Exercises

- (180828.4) Every summer day, Fatima usually goes out into the woods and picks blueberries. The volume of blueberries she picks during a day can be described by a random variable with expectation 1.4 liters and standard deviation of 0.4. Furthermore, it is assumed that the blueberry volumes are independent from day to day.
  - Calculate the probability that Fatima will pick at least 40 liters of blueberries during 30 summer days. (2p)
  - At least how many summer days does Fatima need to go in order for her to get a total of at least 40 liters with a probability of at least 0.99? (3p)

*Answer: a) 0.82, b) 33 days.*

- (If I want the distribution of  $X + Y$  do I just sum up the parameters? )  
Colin rolls two fair dice, and let  $X_1$  and  $X_2$  denote the numbers he gets respectively. Clearly  $X_1$  and  $X_2$  are independent and have the uniform distribution within  $\{1, 2, 3, 4, 5, 6\}$ . What about  $X_1 + X_2$ , is it still a uniform distribution?