



Sampling with Replacement

Example 1: A box contains 2 bananas, 5 oranges, and 3 peaches.

a) What is the probability of selecting a banana? What is the probability of selecting an orange?

b) Now, you are asked to pick 2 objects out of the box without looking. After picking the 1st object, you put it back inside the box, then pick the 2nd object (with replacement).

What is the probability that you pick 2 bananas?

What is the probability that you pick 1 banana, then 1 orange?

What is the probability that you pick 1 banana and 1 orange?

Sampling without Replacement

Example 1: A box contains 2 bananas, 5 oranges, and 3 peaches.

You are asked to pick 2 objects out of the box. After picking the 1st object, you continue picking the 2nd object without putting the 1st object back inside the box (without replacement).

What is the probability that you select 2 bananas?

What is the probability that you pick 1 banana, then 1 orange?

What is the probability that you pick 1 banana and 1 orange?

Example 2:

A study is conducted on a group of 48 STAT 430 students. Each student is asked whether he/she lives in the Champaign-Urbana area for Fall 2020. The results are recorded in the following table:

	Live in CU	Not live in CU	Totals
Male	13	11	24
Female	5	19	24
Totals	18	30	48

Draw 5 students WITHOUT replacement. What is the probability that at least 1 student lives in CU?

To-do:

- Finish [Lab 06](#), commit and push the lab using git commands!
- Finish HW 5 on PL!