

Question 1: Define Event in this sampling scheme.

An event could be that you surveyed one plot for presence or absence.

Question 2: What is the sample space of your bird sampling scheme?

7 - there are 6 samples of 1 presence and the opportunity to have 0 presences

Question 3: How many ways are there to arrange the two presences in your grid of six plots?

15 possible ways. Kept 1st bird constant and counted potential second bird slots. Then moved the first bird between slots. Each new bird position had $(n-1)$ possible combinations.

Question 4: Is it uncommon to observe 2 birds?

Not uncommon because there is the greatest likelihood of observing 3 birds, and 2 birds is not that different from the mean, so it is somewhat likely.

Question 5: Pick 2 acorns at the same time

Events: 6 (BB, BR, BW, RR, RW, WW)

Combinations

These are combinations because combinations enumerate events and at this point, order doesn't matter.

Question 6: Pick 2 acorns sequentially

Events: 9 (BB, BR, BW, RR, RB, RW, WB, WR, WW)

Permutations

These are permutations because the order matters so picking a red then a white acorn is not the same as picking a white acorn and then a red one.