

Now, let's start exploring the questions one by one and begin with those concerning table C1.

- 1) The likelihood for a male student being accepted, equals the number of admitted male students over the number of male students, who applied, so that is just $634 / 2590$, or approximately 24.48%.
- 2) We find the likelihood for a female student getting accepted pretty much the same way - $741 / 3088$, or approximately 24%.
- 3) We see that it is slightly more competitive to get accepted, being a woman, but the two likelihoods are relatively even.
- 4) The likelihood of first-time freshmen men enrolling equals the number of men who enrolled, over the number of men, who were accepted, or $217 / 634$ or approximately 34.23%.

Once again, we find the associated likelihood for women in a similar way, $263 / 741$, or close to 35.49%. The higher enrollment rate makes sense, given the lower acceptance rate among female applicants.

Onto table C2.

- 1) We can interpret the likelihood of getting a place on the waiting list two different ways and each is equally correct, given we clearly define our understanding of the problem.

If we assume that we want the probability of getting on the waiting list, upon applying to Hamilton, then the probability would equal the number of students on the waiting list, over the total number of students who applied. From table C1 we know that we had 2590 male and 3088 female applicants, or 5678 total candidates that year. Since 1299 of them landed on the waiting list, then the likelihood was: $1299 / 5678$, or close to 22.88%.

Alternatively, we might want to calculate the probability of landing on the waiting list after not getting accepted. In this case, our sample size decrease from 5678, to 4303 after we take away the 634 male and 741 female accepted students. Then, the likelihood of getting a spot on the waiting list becomes $1299 / 4304$ or roughly 30.19%.

- 2) We know that 629 students **accepted** a place on the waiting list, and out of those 629, 33 got admitted. Thus, the likelihood of getting admitted, given a student accepted a place on the waiting list, equals $33 / 629$, or 5.25%.

- 3) Now, this last question might *seem* the exact same as the one before, but this time we are asking for the likelihood of being admitted, given the student **was offered** a place on the waiting list. This means our sample space is not just the 629 students who **accepted** the place in the waiting list, but the entire 1299, who were offered one. Thus, the likelihood equals $33 / 1299$, or roughly 2.54%.