Questions:

1. What's Riccardo's estimated knowledge of CogSci? What is the probability he knows more than chance (0.5) [try figuring this out. if you can't peek into chapters 3.1 and 3.2 and/or the slides]?

1a. First implement a grid approximation (hint check paragraph 2.4.1!) with a uniform prior, calculate the posterior and plot the results. Then implement a quadratic approximation (hint check paragraph 2.4.2!).

1. Estimate all the teachers' knowledge of CogSci. Who's best? Use grid approximation. Comment on the posteriors of Riccardo and Mikkel.

2a. Produce plots of the prior, and posterior for each teacher.

1. Change the prior. Given your teachers have all CogSci jobs, you should start with a higher appreciation of their knowledge: the prior is a normal distribution with a mean of 0.8 and a standard deviation of 0.2. Do the results change (and if so how)?

3a. Produce plots of the prior and posterior for each teacher.

1. You go back to your teachers and collect more data (multiply the previous numbers by 100). Calculate their knowledge with both a uniform prior and a normal prior with a mean of 0.8 and a standard deviation of 0.2. Do you still see a difference between the results? Why?
2. Imagine you're a skeptic and think your teachers do not know anything about CogSci, given the content of their classes. How would you operationalize that belief?
3. Optional question: Can you estimate the difference between Riccardo's estimated knowledge and that of each of the other teachers? Would you deem it credible (that is, would you believe that it is actually different)?