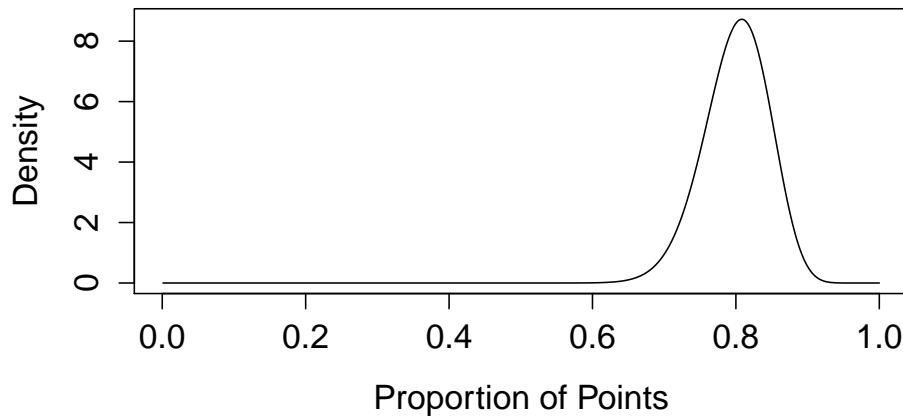


STA 360/601: Homework 1 Answers

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We want to select a prior that only puts weight on values $[0, 1]$. A beta distribution fits this criteria well. Suppose we expect to get 80% of the total points and we believe that there is a 95% chance that we will get between 70 – 90% of the total points. Through trial and error, we find that a $Beta(60, 15)$ approximately fits this criteria. A plot of our prior belief is found below.



According to our prior belief, we expect to get 80% of the total points, and we believe that there is a 95% probability that we will get between 70 – 88% of the total points.