Due: Wednesday March 3rd, 2021

Problems to be turned in Problem : 3,5

Please solve the following questions from Class Text at: http://www.isibang.ac.in/~athreya/psweur

- 1. Exercise 4.2.1
- 2. Exercise 4.2.2
- 3. Exercise 4.2.9
- 4. Exercise 6.1.1
- 5. Exercise 6.1.2
- $6. Exercise \ 6.1.5$
- 7. Exercise 4.2.4
- 8. Let Y_1, Y_2, \dots, Y_n be independent random variables, each uniformly distributed over the interval $(0, \theta)$.
 - (a) Show that the mean \bar{Y} converges in probability towards a constant as $n \to \infty$ and find the constant.
 - (b) Show that $\max\{Y_1, \dots, Y_n\}$ converges in probability toward θ as $n \to \infty$.