Probability II-Problem Sets

Justin Pierce

8/19/2021

1. What is the difference between discrete and continuous variables?
2. What is a distribution?
3. What is the difference between the PMF, PDF and CDF? What is the difference between the CDF for discrete and continuous variables?
4. What is a random variable?
5. Political science graduate students are asked to read many articles per week. Table 1 shows, for a given number of articles, how many graduate students read those articles. Use the table to answer the following questions.
   - Is the number of articles a discrete or continuous variable?
   - Create a graph of the distribution.
   - What is the expected value, or average number of articles read per week?
   - What is the variance?
   - What is the standard deviation?

Table 1: Number of Articles Read Per Week.

Number of Articles	Number of Grad Students who read that amount
1	0
2	2
3	2
4	4
5	3
6	3
7	5
8	7
9	8
10	5