

Exponential Distribution

Five students are independently taking an exam. The number of minutes required by any particular student to complete the exam can be modeled with an Exponential distribution with a mean of 80 minutes.

1. Suppose that the exam begins at 9am. What is the probability that at least one of the students will complete the exam before 9:40am?
2. What is the probability that no two students finish within 10 minutes of each other?