

Lab 4: Exploring the Poisson Probability Distribution

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Poisson Distributions

Functions: `dpois()`, `ppois()`, `qpois()`, `rpois()`

You run a computer server that services a local message board. Records indicate that messages arrive to the server at a rate of 6 per hour.

For each question below, write the code, then the text answer.

1. What is the expected value of this distribution? What is the variance?
2. What is the probability that, in the next hour, the server will receive exactly 5 messages?

3. What is the probability that the server will receive no more than 10 messages but at least 5 messages in the next 2 hours?
4. What is the probability that, in the next 3 hours, the server will receive exactly 10 messages?
5. One of your friends says that there is only a 13% chance that the server will receive more than 8 messages in an hour. Are they correct? Why?