Introduction to Probability
Quiz 6

In Dungeons and Dragons decisions are commonly made using a fair 20 sided die. If a 20 appears the roll is deemed a *critical failure*. John (aka the Elf Lord Gingerafer) rolls a 20 sided die 200 times in a session of D&D.

1. What is the probability that John gets exactly 10 critical failures?

2. Using the Poisson approximation, what is the approximate probability that John gets exactly 10 critical failures?

3. Using the normal approximation, what is the approximate probability that Jonh gets exactly 10 critical failures?