

Seminar 20

1. A process yields 10% defective items. If 100 items are randomly selected from the process, what is the approximate probability that the number of defectives
 - a. exceeds 13?
 - b. is less than 8?

2. A pair of dice is rolled 180 times. What is the approximate probability that a total of 7 occur
 - a. at least 25 times?
 - b. between 33 and 41 times inclusive?
 - c. exactly 30 times?

3. On the average a certain intersection results in 10 traffic accidents per month. What is the approximate probability that in any given month at this intersection
 - a. less than 15 accidents will occur?
 - b. at least 10 accidents will occur?
 - c. exactly 5 accidents will occur?

4. The lifetime of a certain light bulb is Normally distributed with mean 500 hours and variance 100 hours.
 - a. What is the probability that the lifetime of a random selected light bulb is at least 510 hours?
 - b. If 10 light bulbs are selected, what is the probability that less than 2 light bulbs having at least 510 hours' lifetime?