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Discrete Structures II

Problem Set #3

1. There are 76 faculty members on staff in a department at a major university. 64 members possess life insurance, 36 are externally funded, and 34 of the externally funded possess life insurance. One (1) of the faculty members is randomly selected. What is the probability the faculty member selected is not externally funded and does not possess life insurance?
2. At a certain college, live off campus, of the students originate from New York, and of the students are from outside New York and live on campus. What is the probability a randomly selected student is from outside New York or lives on campus?
3. Box A contains 8 items, 3 are defective. Box B contains 5 items, 2 are defective. From each box, an item (1 item) is randomly selected. What is the probability that;
   1. Both items are not defective?
   2. One item is defective and the other item is not defective?
   3. If one item is defective and one item is not defective, that defective item came from Box A?

The amount of instances where one item is defective, and one isn’t is 19.

Therefore, instances occur when A contains a defective item.