MATH 10B with Prof. Stankova
Section #208 ; time: 2-3:30pm
GSI: Ninh DO

Quiz 6

Student:
SID:
Tue 3/5/19

True/False - No explanation needed. (1pt for correct, 0pt - no answer, -1pt - incorrect)

1. It is sufficient to conclude that the event A is independent from the event B if $P(B) = P(A|B)$. True/False
2. If two events A and B are independent. It is guaranteed that $P(A \cap B) = P(A)P(B)$. True/False

Problems - Need justification. No justification means **zero**!

1. (10pts) Suppose a new cancer test has a 90% chance of correctly identifying that a sick patient has cancer and a 15% chance of incorrectly identifying that a healthy patient has cancer. Assume that 10% of the population has this form of cancer. Compute the following probabilities:
   a) The probability that the test identifies a randomly chosen person as having cancer.
   b) The probability that a person who tests positive for cancer actually has cancer.