

CISC 1100 - HW 8

NAME:

A standard deck has 52 cards, 2 through 10, and 4 face cards, J, Q, K, A.

1) Suppose you are drawing a standard 5 card hand. Write your answers as fractions.
Find the probability of the following:

a) Getting 4 aces.

b) Getting exactly 2 kings.

c) Getting a full house.

d) Getting at least 3 eights.

e) Getting a flush (5 consecutive cards of the same suit, e.g. 9, 10, J, Q, K).

2) a) Suppose that, in a medical test, 346 people were tested. 315 were sick, however only 20 people had a false test result when they were healthy. If the probability that a test came back positive given that the patient was sick is $43/63$, fill out a full probability tree (use patient is sick as the first event and test came back positive for the second event).

Show all your work!

b) What is the probability of a false positive?

c) What is the probability of a false negative?