## Statistics 100a Exam

Rick Paik Schoenberg, Mar 3, 2015, 11am - 12:15pm.

PRINT YOUR NAME:

Victor Lai

SIGN YOUR NAME:

Victor Lai

Do not turn the page and start the exam until you are told to do so.

You may use a dark pen or dark pencil, calculator, the textbook, and any notes.

There are 14 multiple choice questions worth 7 points each.

For each question, mark one answer only. No need to show work on these, and no partial credit will be given.

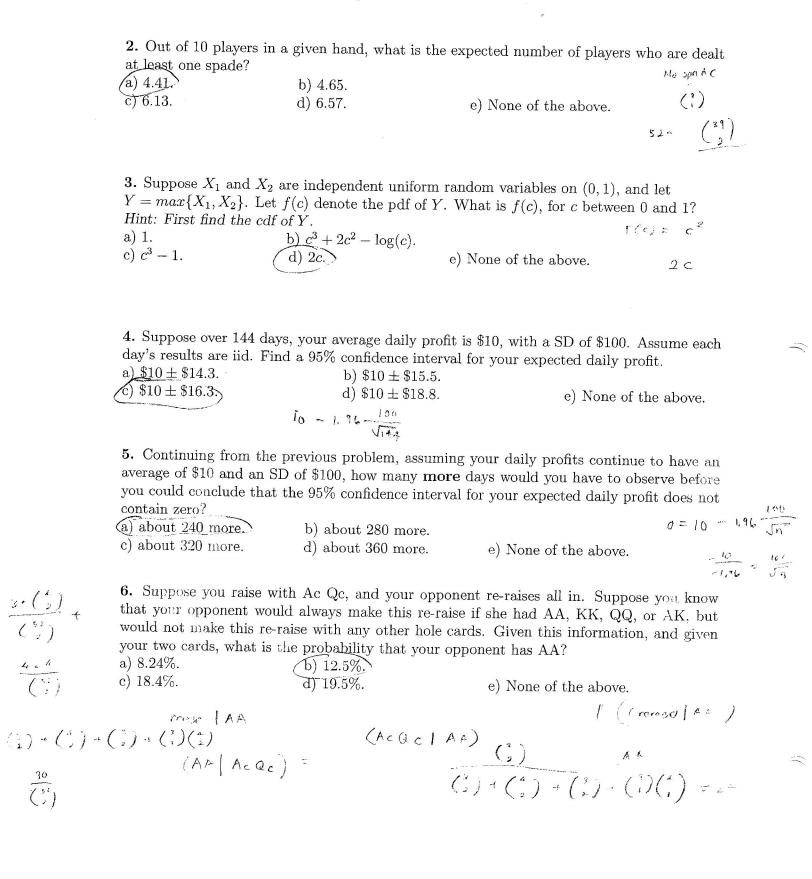
Final answers are rounded to 3 significant digits.

7s means the seven of spades. Qh means the queen of hearts, etc.

Heads up means one against one.

 $e \approx 2.718$ .

e) None of the above.



1. A face card is a J, Q, or K. What is P(you are dealt 2 face cards but not a pocket pair)?

a) 3.04%.c) 4.12%.

k 9

0 0

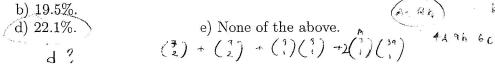
45 6

2.43

7. In a hand between Martens and Hansen, there were 675,000 chips in the pot when the flop of 4d 9h 6c was revealed. Martens checked with Ac Qh, and Hansen went all in for 800,000 chips with Kd 9c. Martens had more than 800,000 chips left, and after thinking about it a while, he decided to call. At this point, given their cards, what is the probability that Martens will win the hand?

a) 18.2%.

c) 21.3%.



8. Continuing with the previous problem, one of the announcers said Martens was "making the wrong move at this point. He still can get lucky of course." Was it the wrong move? Assume Martens knew his opponent's cards and suppose this was a winner take all tournament. Was Martens wrong to call?

a) No, because his probability of winning is greater than the necessary 15.2% for a call to be correct.

b) No, because his probability of winning is greater than the necessary 17.4% for a call to

c) Yes, because his probability of winning is less than the necessary 35.2% for a call to be

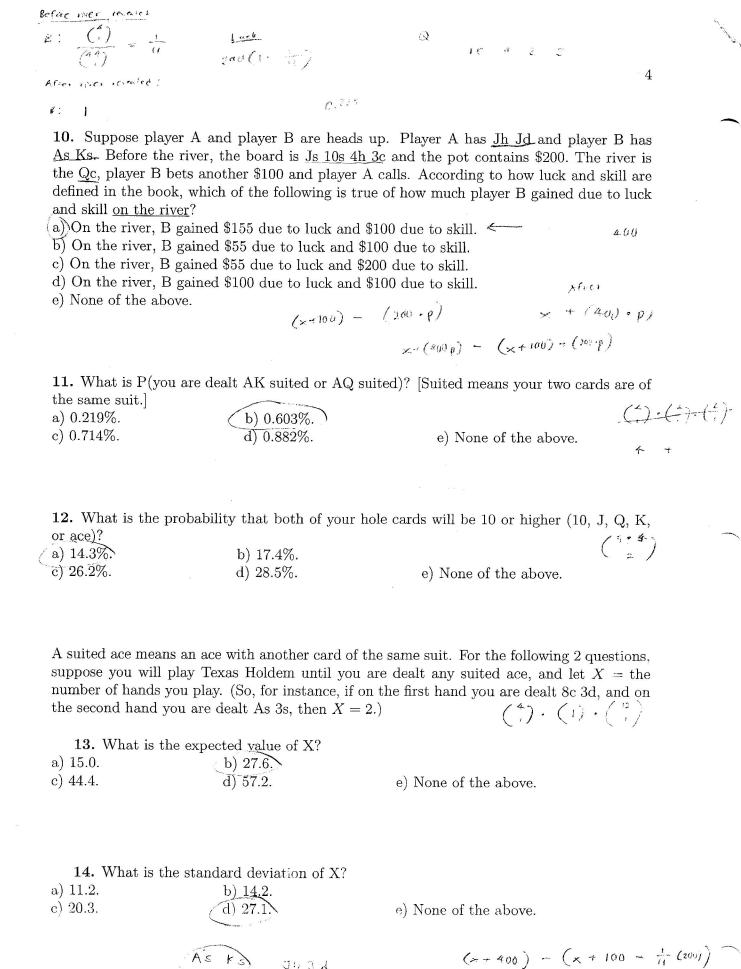
d) Yes, because his probability of winning is less than the necessary 44.7% for a call to be correct.

e) None of the above.

9. Suppose X is the time in minutes until your opponent makes a huge bluff, and suppose the expected value of X is 15. What does the Markov inequality imply about  $P(X \ge 50)$ ?

- a)  $P(X \ge 50) \le 3.52\%$ .
- b)  $P(X \ge 50) \ge 15.0\%$ .
- c)  $P(X \ge 50) \le 15.0\%$ .

- (d)  $\vec{P}(X \ge 50) \le 30.0\%$ .
- e) None of the above.



400 - 100 - 1 (200)