Quiz 4 (Group) for Statistics 113
Statistics and Society–Fall 2000
Material Covered: Chapters 13,14,15 of Workbook and text
For: Wednesday, 18th October

Name 1 (please print): _____.
last first

Name 2 (please print): _____.
last first

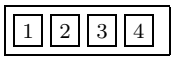
Name 3 (please print): _____.
last first

Name 4 (please print): _____.
last first

Try the following questions.

(a) [1] A die is rolled six times; you win \$1 every time a "1" shows. What is the chance you only win on your first roll? _____.

(b) [1] **True** / **False** Two draws are made at random without replacement from the box model,



The first ticket is lost and nobody knows what was written on it. In this case, the two draws are independent.

(c) [1] A coin is tossed six times. Two possible sequences are:

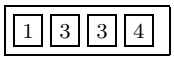
(A) H T T H H H (B) H H H H H H

Circle one.

(i) Sequence (A) is more likely than sequence (B) to occur.
(ii) Sequence (B) is more likely than sequence (A) to occur.
(iii) Sequence (A) is as equally likely as sequence (B) to occur.

(d) [1] Five cards are dealt from a deck of 52. What is the chance that the first four cards are kings and the fifth card is a jack? _____.

(e) [1] Five draws are made at random with replacement from the box model,



The chance that k ($k = 0, 1, 2, 3, 4, 5$) of the five draws are 3s has a binomial distribution where (circle one)

(i) $p = 0.2$, $n = 4$ (ii) $p = 0.25$, $n = 4$ (iii) $p = \frac{1}{6}$, $n = 4$ (iv) $p = \frac{1}{4}$, $n = 5$ (v) $p = 0.2$, $n = 5$

(a) [1] $\frac{1}{6} \times \frac{5}{6} \times \frac{5}{6} \times \frac{5}{6} \times \frac{5}{6} \times \frac{5}{6} = \frac{3125}{46656} \approx 0.067$

(b) [1] **False**. (Dependent because sampled with*out* replacement.)

(c) [1] (iii)

(d) [1] $\frac{4}{52} \times \frac{3}{51} \times \frac{2}{50} \times \frac{1}{49} \times \frac{4}{48} = \frac{96}{311875200} \approx 0.0000003078$

(e) [1] (iv)