

**Quiz 5 (Individual) for Statistics 113**  
**Statistics and Society–Fall 1999**  
**Material Covered: Chapter 18 of notes and text**  
**For: 3rd November**

Name (please print): \_\_\_\_\_  
last first

Consider the following box model of the distribution of the number of left-handed people in a group of three people.

3 ticket	<input type="checkbox"/>	2 tickets	<input type="checkbox"/>	1 tickets	<input type="checkbox"/>	0 ticket	<input type="checkbox"/>
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1. [1] The average of the box is (circle one)  $\frac{2}{6}$  /  $\frac{3}{6}$  /  $\frac{4}{6}$  /  $\frac{5}{6}$  /  $\frac{6}{6}$  and the SD of the box is about 0.75.
2. [2] Using the following table,

ticket	1,2,3	4,5	6	
represents no. left-handed people	0	1	2	3

the most appropriate box model for the *simulated* distribution is, after 6 draws, using the *seventh* row of the random numbers table and sampling with replacement, is (circle none, one or more)

- (a) 

3 tickets	<input type="checkbox"/>	2 tickets	<input type="checkbox"/>	1 tickets	<input type="checkbox"/>	0 tickets	<input type="checkbox"/>
-----------	--------------------------	-----------	--------------------------	-----------	--------------------------	-----------	--------------------------
- (b) 

0 tickets	<input type="checkbox"/>	1 tickets	<input type="checkbox"/>	2 tickets	<input type="checkbox"/>	3 tickets	<input type="checkbox"/>
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- (c) 

1 tickets	<input type="checkbox"/>	2 tickets	<input type="checkbox"/>	3 tickets	<input type="checkbox"/>	0 tickets	<input type="checkbox"/>
-----------	--------------------------	-----------	--------------------------	-----------	--------------------------	-----------	--------------------------
- (d) 

2 tickets	<input type="checkbox"/>	0 tickets	<input type="checkbox"/>	1 tickets	<input type="checkbox"/>	3 tickets	<input type="checkbox"/>
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3. [1] The average of the simulated box model is (circle one)  $\frac{3}{6}$  /  $\frac{5}{6}$  /  $\frac{9}{6}$  /  $\frac{11}{6}$  /  $\frac{14}{6}$  and the SD of the box is about 1.34.

4. [1] A possible *simulated* box model for the *sum* of the number of left-handed people, drawn *twice*, from a group of three, is

3 ticket	<input type="checkbox"/>	1 tickets	<input type="checkbox"/>	1 tickets	<input type="checkbox"/>	0 ticket	<input type="checkbox"/>	1 tickets	<input type="checkbox"/>	0 ticket	<input type="checkbox"/>	0 ticket	<input type="checkbox"/>
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The average of the simulated box model is  $\frac{7}{6}$  and the SD of the box is about 1.5. The average *should be*  $\frac{8}{6}$  and the SD *should be* (circle closest one) **0.9** / **1.1** / **1.3** / **1.4** / **1.5**.

5. [1] **True** / **False** As the number of draws increases, the histogram of the box model of the sum becomes more and more normal shaped.

1. [1]  $\frac{4}{6}$
2. [2] (d)
3. [1]  $\frac{11}{6}$
4. [1] **1.1**
5. [1] **True**