

**Quiz 5 (Individual) for Statistics 113**  
**Statistics and Society - Spring 1999**  
**Material Covered: Chapter 18 of notes**  
**For: 2nd April**

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

Craig plans to buy two fishing lures from a choice of four different types. Each lure has a different price. There are plenty of each type of lure in stock. Each lure along with its respective price is listed below.

lure 1 = \$2.00; lure 2 = \$1.00; lure 3 = \$2.00; lure 4 = \$3.00

(a) [1] Assuming each lure is chosen with *equal* probability, complete the following distribution for choosing a particular lure,

lure	1	2	3	4
chance of choosing lure	0.25	(a)	0.25	(b)

Here, (a) = \_\_\_\_\_

and (b) = \_\_\_\_\_

(b) [1] To say a *random sample* of size two is taken here, means (circle one)

1. the distribution for choosing a lure is the same both times Craig picks a lure
2. picking any lure is independent of picking any other lure
3. both (a) and (b)
4. neither (a) nor (b)

(c) [1] It is possible that lure one is chosen on the first pick, and lure one is also chosen on the second pick, (1, 1). It is also possible that lure one is chosen on the first pick and lure two is chosen on the second pick, (1, 2). In fact, there is a *total* of (circle one) **2 / 4 / 8 / 16 / 32** different ways of choosing two lures from the four types.

(d) [1] If picking lure one on the first pick is *independent* of picking lure one on the second pick then  $P(1,1) =$  (circle one)  $\frac{1}{2} / \frac{1}{4} / \frac{1}{6} / \frac{1}{8} / \frac{1}{16}$ .

(e) [2] Consider the following incomplete sampling distribution of the sum of the cost of two lures,

sum	\$2.00	\$3.00	(a)	\$5.00	\$6.00
probability	$\frac{1}{16}$	(b)	$\frac{6}{16}$	(c)	(d)

Complete this sampling distribution by filling in the following table,

	(a)	(b)	(c)	(d)

(a) Here, (a) = **0.25** and (b) = **0.25**

(b) [1] **both (a) and (b)**

(c) [1] **16**

(d) [1]  $\frac{1}{16}$

(e) [2] Complete this sampling distribution by filling in the following table,

	(a)	(b)	(c)	(d)
	\$4.00	$\frac{4}{16}$	$\frac{4}{16}$	$\frac{1}{16}$