Math 1600, Section 12, Fall 2016 – Statistics
Lab 7 – October 6, 2016
DUE Monday, October 10, 2016

Names:	Group:

1. A carton contains 12 eggs, 3 of which are cracked. If we randomly select five of the eggs for hard boiling, what is the probability of the following events?

a. All of the cracked eggs are selected?

b. None of the cracked eggs are selected?

c. Two of the cracked eggs are selected?

2. After a preliminary screening, a list of qualified jurors consists of 10 males and 7 females. The five jurors the judge selects from this list are all males. Compute the probability of having no female on the jury. Does the selection process seem to discriminate against females?

3. Carol and Karl both solve difficult computer problems that come to the student desk. Carol makes 60% of the repairs and Karl 40%. However, Carol's repairs are incomplete 4% of the time and Karl's are incomplete 6% of the time.

a. Determine the probability that a repair is incomplete.

b. If a repair is found to be incomplete, what is the probability that the repair was made by Karl?

4. The following frequency table shows the classification of 58 landfills in a state according to their concentration of three hazardous chemicals arsenic, barium, and mercury.

	Barium			
	High		Low	
	Mercury		Mercury	
Arsenic	High	Low	High	Low
High	1	3	5	9
Low	4	8	10	18

Given that a landfill selected at random is found to have a high concentration of mercury, what is the probability that its concentration is:

(a) High in barium?

(b) Low in both arsenic and barium?

(c) High in either arsenic or barium?