Name: ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯

Books and notes (in any form) are not allowed. *Show all your work.* Good Luck!

For the questions on this quiz, consider an event to be "UNUSUAL" if its probability is less than or equal to 0.05.

1. (8 pts) The following table summarizes results from 985 pedestrian deaths that were caused by accidents (based on data from the National Highway Traffic Safety Administration).

		Pedestrian Intoxicated?	
		Yes	No
	Yes	59	79
Driver Intoxicated?			
	No	266	581

(a). If one of the 985 pedestrian deaths is randomly selected, find the probability that the pedestrian was intoxicated. Is it unusual for the pedestrian to be intoxicated?

(b). If one of the 985 pedestrian deaths is randomly selected, find the probability that the pedestrian was intoxicated or the driver was intoxicated.

(c). If one of the 985 pedestrian deaths is randomly selected, find the probability that the pedestrian was intoxicated and the driver was intoxicated.

(d). If four *different* pedestrian deaths are randomly selected, what is the probability that all four deaths involved a driver that was not intoxicated?   [Note: *different* implies *without replacement.*]

2. (4 pts) A Reuters/Zogby poll showed that 61% of Americans say they believe that life exists elsewhere in the galaxy.

(a). If you randomly select one American and then randomly select a second, different American, explain **_briefly_** (couple of sentences) why these events are technically dependent, but can be treated as independent.

(b). If you randomly select two different Americans, what is the probability that both of them will <u>not</u> believe that life exists elsewhere.

3. (3 pts) Suppose you are playing Rock, Paper, Scissors. [Rules: Two people choose a Rock, Paper, or Scissors by making the symbol with their hand. Rock wins over scissors, but rock loses to paper. Paper wins over rock, but paper loses to scissors. Scissors wins over paper, but scissors loses to rock. If you need more explanation, see Dr. Crawford.]

(a). Let R represent rock, P represent paper, and S represent scissors. Write out the sample space for the possible outcomes of one turn with 2 people.

(b). If each player randomly plays a symbol, what is the probability that the turn will result in a draw (both players make the same symbol)?