Odds Funsheet

Problem 1

The table below shows the results for drivers and passengers in auto accidents in Florida in 2008 according to whether or not the individual was wearing a seatbelt

	Injury	
	Fatal	Nonfatal
No Seatbelt	1,085	55,623
Yes Seatbelt	703	441,239

Part A What is the probability that somebody was not wearing a seatbelt *and* was in a non-fatal car accident?

Part B *Given* that somebody was not wearing a seatbelt, what is the probability that they were in a nonfatal accident?

Part C What are the odds that somebody not wearing a seatbelt was in a fatal accident? What are the odds that somebody who *was* wearing a seatbelt was in a fatal accident?

Part E Using what you found in Part C, offer a statement for each of the following:

- How do the odds of being in a fatal accident for somebody not wearing a seatbelt compare to somebody wearing a seatbelt?

- How do the odds of being in a fatal accident for somebody wearing a seatbelt compare to somebody not wearing a seatbelt?

Part F What is the relationship between the two statements made in Part E?

Problem 2

The table below shows the results of a 1988 Harvard Medical School clinical trial examining the efficacy of aspirin in prevent heart attacks in middle-aged male physicians

	Myocardial Infarction	
	Attack	No Attack
Placebo	189	10,845
Aspirin	104	10,933

Part A Given that somebody did not have a heart attack, what is the probability that they were given a placebo? How does this compare with the probability of being assigned a placebo given that they did have a heart attack?

Part B What are the odds that somebody given aspirin did not have a heart attack? What about the odds that somebody given placebo did not have a heart attack?

Part C Using what was given in Part B, offer a statement for each of the following:

- How do the odds of not having a heart attack in the aspirin group compare to the odds of not having a heart attack in the placebo group?

- How do the odds of having a heart attack in the aspirin group compare to the odds of having a heart attack in the placebo group?

Part D What is the relationship between the statements made in Part C? How does this compare to the relationship between statements given in Problem 1 Part F?