Math 5710 Monday, 7/13/20 Quiz 15

1. What is your name?

2. Write a paragraph that explains why we decided that the first of following statements wouldn't work for our definition of *conditional probability* but that the second one would:

   1st. Given $A \subseteq \Omega \wedge B \subseteq \Omega \ni p(B) \neq 0$, ($p(A|B) = p(A \cap B)$

   2nd. Given $A \subseteq \Omega \wedge B \subseteq \Omega \ni p(B) \neq 0$, ($p(A|B) = \frac{p(A \cap B)}{p(B)}$)

Sample explanation:

Although Ω is the sample space of the experiment, our condition that we only want to consider a subset of Ω (call that subset "Ω*") for which $p^*(B) = 1$ where p^* is a probability function similar to p – but not p because p^*'s domain is limited to events in which B occurs.

It might be clarifying to keep in mind that for $p(B) < 1$, that $p(A \cap B) < \frac{p(A \cap B)}{p(B)}$

since division by a positive number less than 0 yields a larger quotient that the original number. I'm not enthusiasticly happy with the clarity of my sample explanation

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3. Smile.