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Math 5710 Monday, 7/13/20 Quiz 15

1. What is your name?

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

The $P(A \cap B)$ is too big, and we need to limit the sample space to those that are a part of B, or B has already occured. Since our sample space is Ω, $P(A|B)$ will need to only look at the set containing the B outcomes. That is why we limit our sample space to those by deviding by $P(B)$.

3. Smile.