Math 1711 Spring 2020
Quiz 2
Name: _____
Section: _____

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Formula Independence test

$$Pr(A \cap B) = Pr(A)Pr(B)$$

if A and B are independent.

1. [1pt] The odds of a person in the continental United States living within 50 miles of the Atlantic Ocean are 7 to 13. What is the probability of such a person living within 50 miles of the Atlantic Ocean?

2. [2pts] Let E and F be events with $Pr(E) = 0.5$ and $Pr(F) = 0.3$ and $Pr(E \cup F) = 0.6$.

    (a) [1pt] Find $Pr(E|F)$.

    (b) [1pt] Are E and F independent?

3. [2pts] An experiment consists of rolling two distinct fair dice. Let $E = \{$at least one die shows 1$\}$ and $F = \{$the faces sum to 4$\}$. Find $Pr(E), Pr(F), Pr(E \cap F), Pr(E|F)$. **(Simplify your answer as far as possible)**