

1 Probability Potpourri

Note 13
Note 14

Provide brief justification for each part.

- (a) For two events A and B in any probability space, show that $\mathbb{P}[A \setminus B] \geq \mathbb{P}[A] - \mathbb{P}[B]$.
- (b) Suppose $\mathbb{P}[D | C] = \mathbb{P}[D | \bar{C}]$, where \bar{C} is the complement of C . Prove that D is independent of C .
- (c) If A and B are disjoint, does that imply they're independent?

