The probability of the difference of two events. Give a mathematical derivation of the formula

$$\mathbf{P}\Big((A \cap B^c) \cup (A^c \cap B)\Big) = \mathbf{P}(A) + \mathbf{P}(B) - 2 \cdot \mathbf{P}(A \cap B),$$

for the probability that exactly one of the events A and B will occur. Your derivation should be a sequence of steps, with each step justified by appealing to one of the probability axioms.

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In this problem, we're going to use the set of probability

axioms to derive the probability of the difference of two

events.

Now, before we get started, there's

one thing you might

▶ 0:00 / 5:54

1.0x

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A written solution to this problem can be found here .

DISCUSSION

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