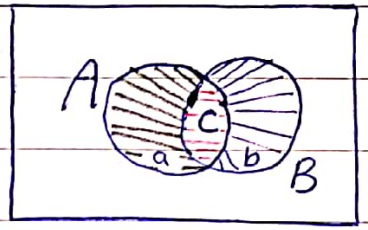
Subject:
Year. Month. Day.

۹۸۲۲۲۸.۴ مصطفی فضلی شهری

$$P(A \cup B) = P(A) + P(B) - P(A \cap B)$$




$$P(A \cup B) = P\left[(A \cap B^c) \cup (A \cap B) \cup (B \cap A^c)\right]$$

$$= P(A \cap B^c) + P(A \cap B) + P(B \cap A^c) \Rightarrow P(A \cup B) = a + c + b$$

$$P(A) + P(B) - P(A \cap B) = P(A \cap B^c) + P(A \cap B) + P(B \cap A^c) + P(A \cap B) - P(A \cap B) \Rightarrow a + c + b \Rightarrow P(A) + P(B) - P(A \cap B)$$

روش ۱

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روش ۲

$$P(A \cup B) = P(A) + P(B) - P(A \cap B)$$

$$A \cup B = A \cup (A' \cap B) \Rightarrow P(A \cup B) = P(A) + P(A' \cap B)$$

$$B = (A \cap B) \cup (A' \cap B) \Rightarrow P(B) = P(A \cap B) + P(A' \cap B) \Rightarrow P(A' \cap B) = P(B) - P(A \cap B)$$

$$\Rightarrow P(A \cup B) = P(A) + P(B) - P(A \cap B)$$