Introduction to Probability and Statistics for Engineers and Scientists

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1 Basic Theorems

1.1 De Morgan's Law

For any sets A and B, $(A \cup B)^c = A^c \cap B^c$;
$(A \cap B)^c = A^c \cup B^c$

1.2 Distributive Law

For any sets A, B, and C
$A \cap (B \cup C) = (A \cap B) \cup (A \cap C)$
$A \cup (B \cap C) = (A \cup B) \cap (A \cup C)$