Hw #1 Additional problems

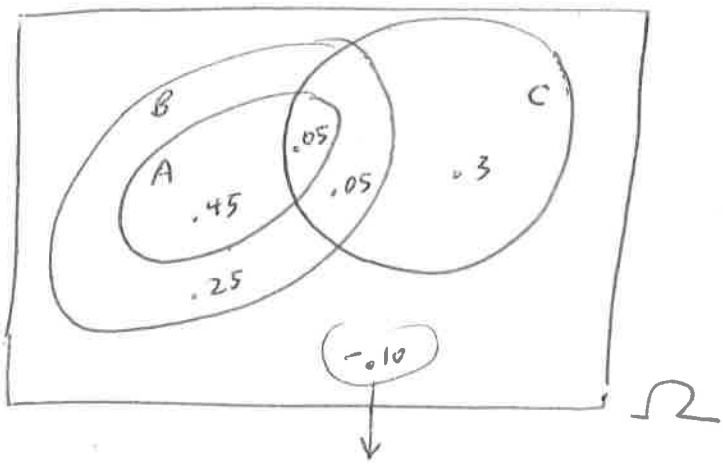
A.1.1

(a) $A \cap B$. or AB

(b) $A^c \cap B^c \cap C$ or $A^c B^c C$

(c) $A \cap (B^c \cup C) = A(B^c \cup C)$.

A.1.2

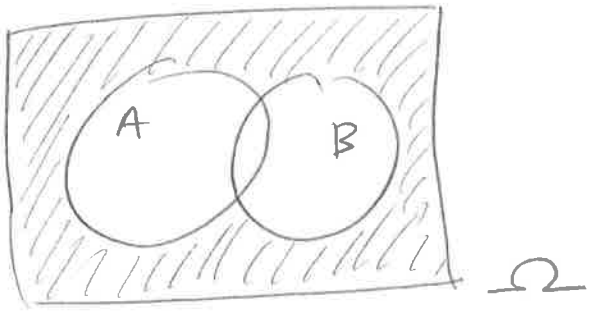


If the assignment of probabilities to each of the events were given as in the problem statement then they would imply

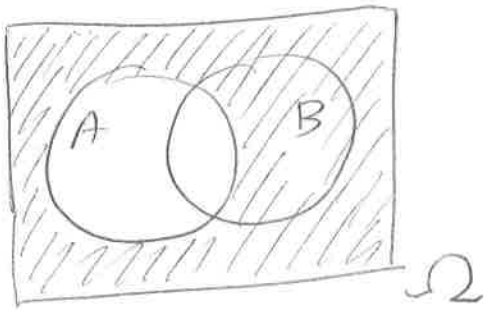
$$P((B \cup C)^c) < 0$$ which violates the nonnegativity axiom of a probability Law.

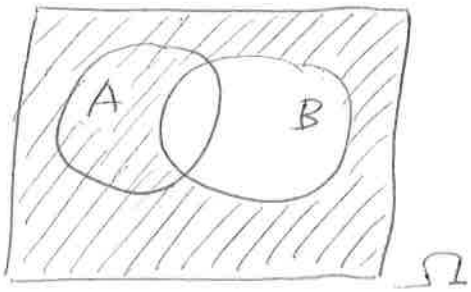
Thus, the speculators assignments of probability are not consistent with that of a probability Law!

A 1.31

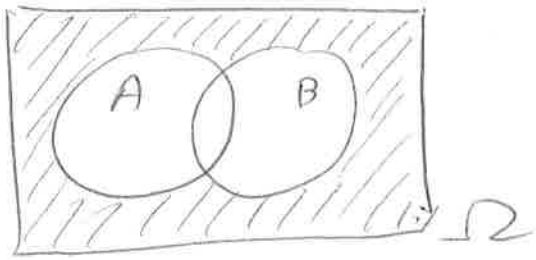


$(A \cup B)^c$ is shaded.





the region in common to both



the Venn diagrams show the events $(A \cup B)^c$ and $A' \cap B^c$ are logically equivalent