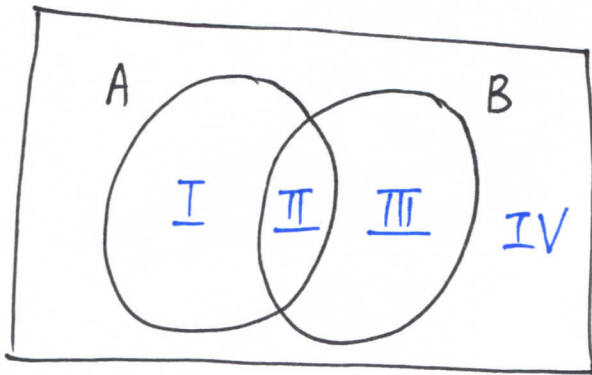


SOA Exam P 003 (General Probability)

Given: $P[A \cup B] = 0.7$
 $P[A \cup B'] = 0.9$

Find: $P[A] = ?$

(It's easier to use a Venn diagram)



Solutions:

$$P[A \cup B] = 0.7 \Rightarrow I + II + III = 0.7$$

(We know that the total probability = 1,
so $I + II + III + IV = 1$)

$$\Rightarrow IV = 0.3$$

$$P[A \cup B'] = 0.9 \Rightarrow I + II + IV = 0.9$$

$$\Rightarrow \boxed{I + II} = 0.6$$

$$\uparrow$$
$$P[A]$$

ANS: \boxed{D}