

# Concepts and Definition to Remember

— Lecture 3.

\*  $P(A)$ , where  $A$  is an event corresponding to a random experiment  $E$  where sample space is  $\Omega$  is  $\frac{\#A}{\#\Omega}$ .

\*  $P(A \cup B) = P(A) + P(B)$   
 $\rightarrow$  if  $A$  and  $B$  are disjoint.

\*  $P(A \cup B) = P(A) + P(B) - P(A \cap B)$   
 $\rightarrow$  if  $A$  and  $B$  are not disjoint.

\* if  $A$  and  $B$  are independent events, then  
 $P(A \cap B) = P(A) \times P(B)$