

EX(1): one dice is thrown, Find:

- ① The Sample space
- ② Sample point = elem. event.
- 3) A = The event shows odd number
- 4) B = The event shows even number
- 5) prob. of A
- 6) prob. of B .

Sol ① $S = \{1, 2, 3, 4, 5, 6\}$

② S. point = (1) or (2) --- or (6)

③ $A = \{1, 3, 5\}$

④ $B = \{2, 4, 6\}$

5) $P(A) = \frac{n(A)}{n(S)} = \frac{3}{6} = \frac{1}{2}$

6) $P(B) = \frac{n(B)}{n(S)} = \frac{3}{6} = \frac{1}{2}$

EX(2) Two Coins are thrown once, Find:-

- ① The Sample space.
- ② A = First Coin appears head (H)
- 3) B = First Coin appears (Tail) (T)
- 4) $P(A)$
- 5) $P(B)$
- 6) Prove that: $P(A) + P(B) = P(S) = 1$

sol

$$① S = \{HH, HT, TH, TT\}$$

$$② A = \{HH, HT\}$$

$$3) B = \{TT, TH\}$$

$$4) P(A) = \frac{n(A)}{n(S)} = \frac{2}{4} = \frac{1}{2}$$

$$5) P(B) = \frac{n(B)}{n(S)} = \frac{2}{4} = \frac{1}{2}$$

$$6) P(A) + P(B) = \frac{1}{2} + \frac{1}{2} = \frac{2}{2} = 1 = P(S) = \frac{n(S)}{n(S)} = \frac{4}{4} = 1$$

$$\therefore P(A) + P(B) = P(S) = 1$$

EX(3): Two dice are thrown once. Find the prob. that:

① The First dice show 2

② The Second dice show odd

3) The Sum of two numbers are more than 10

4) The Sum of two numbers are less than 5

sol

$$S = \left\{ \begin{array}{l} (1,1), (1,2), (1,3), (1,4), (1,5), (1,6) \\ (2,1), (2,2), (2,3), (2,4), (2,5), (2,6) \\ (3,1), (3,2), (3,3), (3,4), (3,5), (3,6) \\ (4,1), (4,2), (4,3), (4,4), (4,5), (4,6) \\ (5,1), (5,2), (5,3), (5,4), (5,5), (5,6) \\ (6,1), (6,2), (6,3), (6,4), (6,5), (6,6) \end{array} \right\}$$

$$= 6^2 = 36$$

عدد النتائج

$$\therefore S = (\text{عدد الوجوه}) = (\text{عدد النتائج})$$