5/10/2020
MONDAY

MATHEMATICS

STD - X
class - 39

Text book page no. 75, [2, 3 question's Answer.]

2) A box contains four slips numbered 1, 2, 3, 4 and another box contains two slips numbered 1, 2. If one slip is taken from each, what is the probability of the sum of numbers being odd? what is the probability of the sum being even?

Ans) Possible pairs: (1,1), (1,2), (2,1), (2,2), (3,1), (3,2), (4,1), (4,2)

Their number = 8 (This is 4×2)

Pairs with sum odd: (1,2), (2,1), (3,2), (4,1)

Their number = 4

∴ Probability of the sum of numbers being odd

$= \frac{4}{8} = \frac{1}{2}$

Pairs with sum even: (1,1), (2,2), (3,1), (4,2)

Their number = 4

∴ Probability of the sum of numbers being even =

$\frac{4}{8} = \frac{1}{2}$

3) A box contains four slips numbered 1, 2, 3, 4 and another contains three slips numbered 1, 2, 3. If one slip is taken from each, what is the probability of the product being odd? The probability of the product being even?

Ans) Total possibilities $= 4 \times 3 = 12$

Pairs with product odd : $(1,1), (1,3), (3,1), (3,3)$

Their number $= 4$

$\therefore$ Probability of the product being odd $= \frac{4}{12} = \frac{1}{3}$

Pairs with product even :

$(1,2), (2,1), (2,2), (2,3), (3,2),$

$(4,1), (4,2), (4,3)$

Their number $= 8$

$\therefore$ Probability of the product being even $= \frac{8}{12} = \frac{2}{3}$