Deven Jadhav Class 10 c Roll, no 10

Math MTRV 4

1. { 1,1 2,1 3,1 4,1 5,1 6,1
1,1 2,1 3,1 4,1 5,1 6,1
1,2 2,2 3,2 4,2 5,2 6,2
1,2 2,2 3,2 4,2 5,2 6,2
1,3 2,3 3,3 4,3 5,3 6,3
1,3 2,3 3,3 4,3 5,3 6,3 } $n(S) = 36$

i) E_1 = sum of 2
$E_1 = \{(1,1)(1,1)\}$

$n(E_1) = 2$

$P(E_1) = \frac{n(E_1)}{n(S)} = \frac{2}{36} = \frac{1}{18}$

$P(E_1) = \frac{1}{18}$

ii) E_2 = sum of 3

$E_2 = \{(1,2)(1,2)(2,1)(2,1)\}$

$n(E_2) = 4$

$P(E_2) = \frac{n(E_2)}{n(S)} = \frac{4}{36} = \frac{1}{9}$

iii) E_3 = sum of 4
$E_3 = \{(1,3)(1,3)(2,2)(2,2)\}$
$n(E_3) = 4$

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$P(E_3) = \frac{n(E_3)}{n(S)}$

$= \frac{4}{36} = \frac{1}{9}$

$P(E_3) = \frac{1}{9}$

iv) E_4 = sum of 5

$E_4 = \{(2,2)\ (3,2)\ (2,3)\ (2,3)\ (4,1)\ (4,1)\}$

$n(E_4) = 6.$

$P(E_4) = \frac{n(E_4)}{n(S)} = \frac{6}{36} = \frac{1}{6}$

$P(E_4) = \frac{1}{6}$

v) E_5 = sum of 6

$E_5\ \{(4,2)\ (4,2)\ (1,5)\ (1,5)\ (3,3)\ (3,3)\}$

$n(E_5) = 6$

$P(E_5) = \frac{n(E_5)}{n(S)} = \frac{6}{36} = \frac{1}{6}$

E_5 = sum of 7

$E_5 = \{(6,1)\ (6,1)\ (5,2)\ (5,2)\ (4,3)\ (4,3)\}$

$n(E_5) = 6.$

$P(E_5) = \frac{n(E_5)}{n(S)} = \frac{6}{36} = \frac{1}{6}$

vii) E_6 = sum of 8

$E_6 = \{(6,2)\ (6,2)\ (5,3)\ (5,3)\}$

$P(E_6) = \frac{n(E_6)}{n(S)} = \frac{4}{36} = \frac{1}{9}$

$P(E_6) = \frac{1}{9}$

viii) E_7 = sum of 9

$E_7 = \{(6,3), (6,3)\}$

$n(E_7) = 2$

$P(E_7) = \frac{N(E_7)}{n(S)} = \frac{2}{36} = \frac{1}{18}$

$P(E_7) = \frac{1}{18}$

2 $S = \{2, 3, 4, 5 \ldots 99, 100, 101\}$

$n(S) = 100$

1) $E_1 \rightarrow$ An even no. card

$E_1 = \{2, 4, 6, 8, \ldots 98, 100\}$

$n(E_1) = 50$

$P(E_1) = \frac{n(E_1)}{n(S)} = \frac{50}{100} = \frac{1}{2} \Rightarrow P(E_1) = \frac{1}{2}$

ii) $E_2 \rightarrow$ perfect square no.

$E_2 = \{4, 9, 16, 25, 36, 49, \cancel{6}\ 64, 81, 100\}$ $n(E_2) = 9$

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$P(E_2) = \frac{n(E_2)}{n(S)} = \frac{9}{100}$

$P(E_2) = \frac{9}{100}$

iii) $E_3 \rightarrow$ A number < 20

$E_3 = \{\cancel{1}2, 2, 3 \ldots 19\}$

$n(E_3) = 18$

$P(E_3) = \frac{n(E_3)}{n(S)} = \frac{18}{100} = \frac{9}{50}$