

EE23010 NCERT Exemplar

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Question 10.13.3.35

Box A contains 25 slips of which 19 are marked Rs 1 and others are marked Re 5 each. Box B contains 50 slips of which 45 are marked Rs 1 and others are marked Rs 13 each. Slips of both boxes are poured into a third box and reshuffled. A slip is drawn at random. What is the probability that it is marked other than Rs 1?

Solution:

Random variable	Sample space	Value	Event	Probability
X_1	25	1	Slips of Rs 1	$\frac{19}{25}$
X_1	25	0	Slips of Rs 5	$\frac{6}{25}$

TABLE I
Box A

Random variable	Sample space	Value	Event	Probability
X_2	50	1	Slips of Rs 1	$\frac{45}{50}$
X_2	50	0	Slips of Rs 13	$\frac{5}{50}$

TABLE II
Box B

Box A and Box B are poured together

Random variable	Sample space	Value	Event	Probability
X_3	75	1	Slips of Rs 1	$\frac{64}{75}$
X_3	75	0	Slips which are not Rs 1	$\frac{11}{75}$

TABLE III
DISTRIBUTION