Probability Assignment - 1

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I. PROBLEM

NCERT class -11, Ex: 16.4, Q1:

A box contains 10 red marbles, 20 Blue marbles and 30 green marbles . 5 marbles are drawn from the box, what is the probability that

- 1) all will be blue
- 2) atleast one will be green

II. SOLUTION

From the question it is given that,

No. of red marbles in the box = 10.

No. of blue marbles in the box = 20.

No. of green marbles in the box = 30.

So, The total No. of marbles in the box =60.

Number of ways of drawing 5 marbles from 60 marbles = ${}^{60}C_5$

1) All the drawn marbles will be blue if we draw 5 marbles out of 20 marbles.

Number of ways of drawing 5 Blue marbles from 20 blue marbles = ${}^{20}C_5$

then,

the probability that all marbles will be blue = $\frac{^{20}C_5}{^{60}C_5}$ 2) Number of ways in which the drawn marble is not green = ${}^{30}C_5$

Probability that at least one marble is green = $1 - {}^{30}C_5$