Notes of Online class

0.1 Mathematics of Chance

<p style="text-align:center">Worksheet 2</p>

1) A bag contains 6 black and 4 white balls.If a ball is taken from it

   a) What is the probability of getting black ?

   b) What is the probability of getting white?

   Answers

   a) $\frac{6}{10}$

   b) $\frac{4}{10}$

2) There are 3 red balls and 7 green balls in a bag.There are 8 red balls and 7 green balls in another bag.

   a) What is the probability of getting a red ball from the first bag?

   b) What is the probability of getting red ball from the second bag?

   c) If all balls are put in a single bag what is the probability of getting red from it ?

   d)

   Answers

   a) $\frac{3}{10}$

   b) $\frac{8}{10}$

   c) $\frac{11}{25}$

3) One is asked to say a two digit number.What is the probability of it beging a perfect square?

   Answers

   a) Two digit perfect squares are $16, 25, 36, 49, 64, 81$.
      There are 90 two digit numbers in total

   b) Probability is $\frac{6}{90} = \frac{1}{15}$

4) Numbers from 1 to 50 are written in a slips of paper put in a box.A slip is tobe drawn from it, but before doing so one must make a guess about the number, either prime or a multiple of 5.Which is better guess.

   Answers

   a) Note that there are 15 primes upto 50. These are $2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47$

   b) Probability of getting prime is $\frac{15}{50}$.

   c) There are 10 multiples of 5 upto 50. Probability is $\frac{10}{50}$

   d) Since $\frac{15}{50}$ is greater than $\frac{10}{50}$, guessig prime is better.

5) A bag contains 3 red beads and 7 green beads. Another one red and one green more .The probability of getting a red from which bag is more?

Answers

a) From first bag probability of getting red is $\frac{3}{10}$

b) From the second bag the probability of getting red is $\frac{4}{12}$

c) $\frac{3}{10} = \frac{18}{60}$, $\frac{4}{12} = \frac{20}{60}$. Probability is more in second bag.