**QUESTION 1 a :**

Identical twins -

Unidentical twins -

Probability of twins -

(identical twins/ given twins) =

=

(

**QUESTION 1 b:**

1 bowl -

1 bowl -

2 bowl -

2 bowl -

Probability of first bowl -

Probability By given that the chosen cookie is chocolate -

Probability of chocolate cookies of all bowls -

= =

**QUESTION 2:**

1994 yellow – 0.2

1994 green – 0.1

1996 yellow – 0.14

1996 green – 0.2

Given –

We need to double by 0.5 for the probability of which bag was it chosen:

**QUESTION 3 a:**

Incidence :

Positive test and sick – 0.99

Positive test and healthy – 0.1

= 0.010099

**QUESTION 3 b:**

**RANDOM VARIABLES:**

**QUESTION 1:**

The probability to get a number that divided by 3 :

The probability to get a number that divided by 3 :

**QUESTION 2:**

Bag 1 – 5 red (1-5)

Bag 2 – 5 green (6-10)

Probability of loosing 6$ :

Probability of even :

Probability of wining 5$ :

**QUESTION 3:**

Men – 80

Women – 120

mean =

Formula for standard division :

(population) p = 0.4 (40% male)

Sample size : n = 8 ( 8 employees every month)

**QUESTION 4:**

Mean = 26,000

Standard division = 2,000

68% = 1 standard division from mean

95% = 2 standard division from mean

99.7% = 3 standard division from mean

P(26,000 < X < 28,000) = 68% = 0.68

P(28,000 < X < 30,000) = 95% = 0.95

Mean =

**QUESTION 5:**

We will calculate the area of the tringle from 3 < X < 5 by taking 0.4 as the height :

**QUESTION 6:**

Employees – 500

Employees that have children – 60% = 300 employees

**QUESTION 7:**