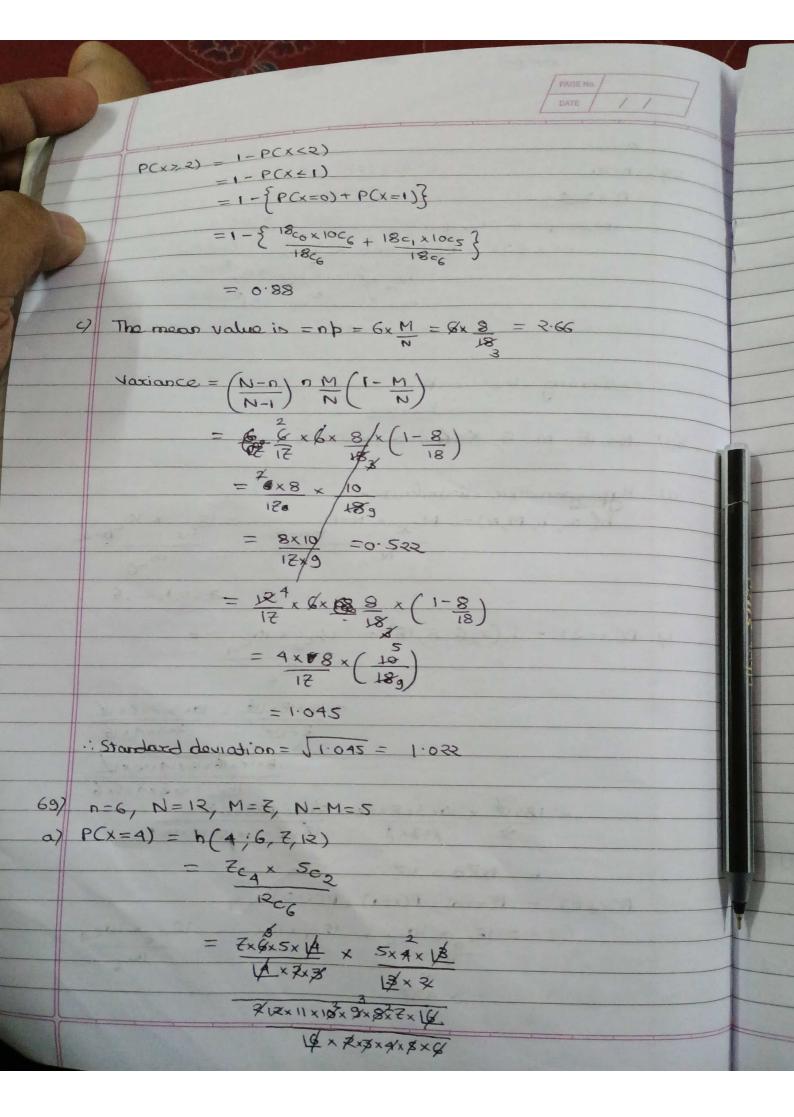
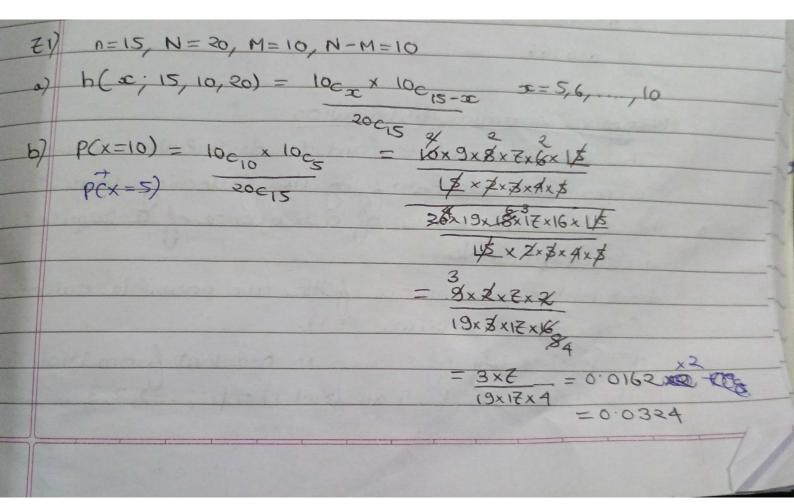
Continuing classwork 68) N= 18, M=8, X=6 n=6, N-M=10 a) Hypogeometric distribution. h(x;n,M,N) = Mex x N-M = 18cx x 10c6-x

Ncn 18c6 x=0,1,,6 b) $P(x=2) = h(2,6,8,18) = 18c_{2} \times 10c_{4}$ = 18 x 17 x 1/6 x 10 x 9 x 8 x 7 x 16/ 18x17x16x15x14x13x12 113/ x 2x 3 x 4 x 5x 6 - 18xx x 10x9x8x70 x xx3x4x5x63 - 18xx x 10x9x8x70 x xx3x4x5x63 = 60763 0.317. P(x=2) = P(x=0) + P(x=1) + P(x=2) = 18c × 10c6 + 18c, × 10c5 + 18c2 × 10c4 = 0.43Z

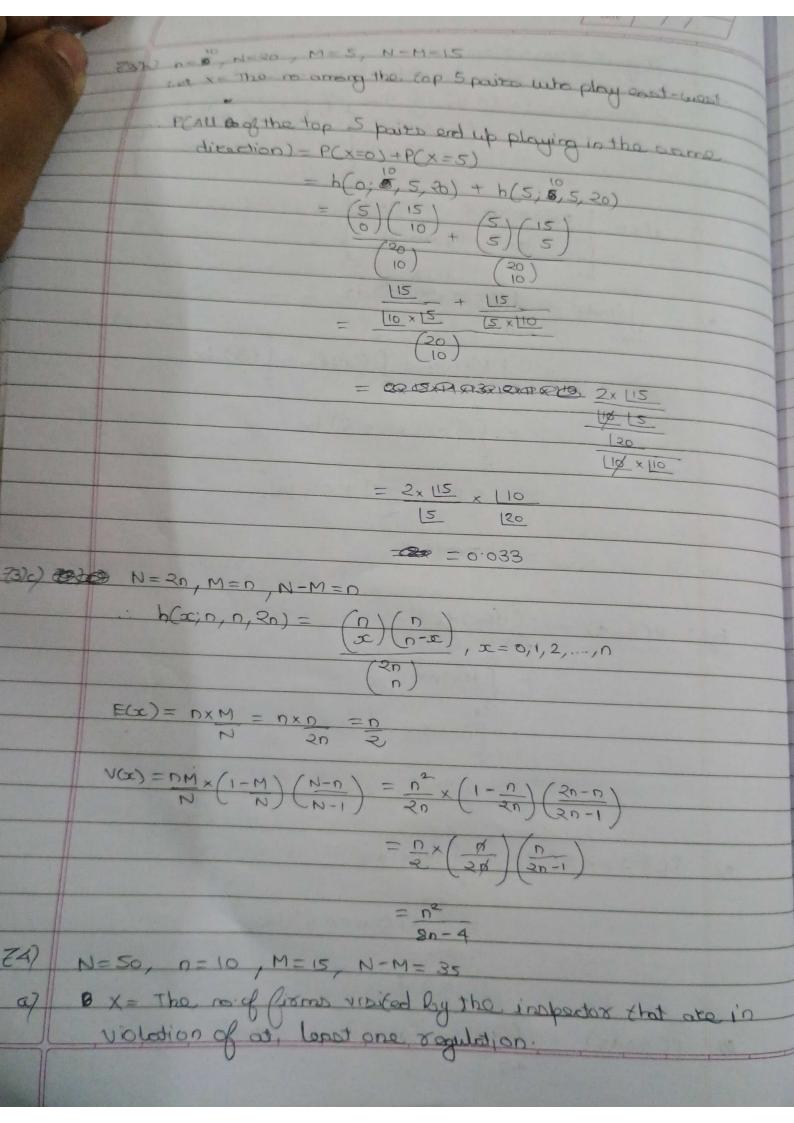


Mean value = $\frac{nM}{N} = \frac{15\times30}{50} = 9$ Variance = $\frac{nM(1-M)(N-n)}{N(N-1)} = 9\times(1-\frac{30}{50})\times(\frac{50-15}{50-1})$ = 2.521

Standard deviation = $\sqrt{2.521} = 1.603$ Variance = $6\times(1-\frac{20}{50})\times(\frac{50-15}{50-1}) = 2.521$ Standard deviation = $\sqrt{2.521} = 1.603$



of Rexysterion P(ECO) - 0x < X < ECO) + 0x) = P(1x- m/ &0) $V(x) = \frac{N-n}{N-1} \frac{n}{N} \left(1 - \frac{M}{N}\right)$ = 0.38e8 ·: 0x = 10.9868 = 0.9933 P(7.5-0.9933 < X < 7.5+0.9933) = P(6.5067 < X < 8.4933) $=P(7 \leq X \leq 8)$ = P(X=7) + P(X=8)= 0.3483 + 0.3483= 0.6966



P(
$$\alpha$$
) = (15) (35) ($10-\alpha$)

$$\begin{pmatrix}
50\\
10
\end{pmatrix}$$
N= 500 , M= 150 , n= 10

$$p = No of parounal outcomes = $150 = 0.3$

$$70101 in of outcomes = 500

$$b(\alpha; n, p) = b(\alpha; 10, 0.3) = 10e_{\alpha} \times (0.3)^{\frac{1}{\alpha}} \times (0.7)^{\frac{1}{\alpha}} \times (0$$$$$$

=0.04 + 2(0.04)(0.8) +3(0.4)(0.61) The expected to of me failures until une got & success The total roof boxes = to be purchased = E(x)+8 = 8+2 D=0.2 \ x= 3 76) 8=8, PCG)=0.5 = PCB) $p(x, x, b) = (x+2)(0.2)^{6}(0.2)^{x}$ E(x) = x(1-b) = 6(1-0.5) = 6so, por each experied to of male children = 2 28)i (85 P=0.409 $P(x=3) = 000 (0.409) (1-0.409)^3 \approx 0.0844$ $P(x \le 3) = P(x=0) + P(x=1) + P(x=2) + P(x=3)$ = (0.409) + (0.409) (1-0.409) + (0.409) (1-0.409) + 0.0894 - 0.8718

Ex:3.5 28/11/ PCX> EC=)+ 0=? E(x) = 0600) 1-0 = 1-0.409 = 1.49 $V(\infty) = \frac{1-p}{p^2} = \frac{1-0.409}{(0.409)^2} = 3.533$ 0.:0x = \3.533 = 1.88 · P(X> 1.44+1.88) = PC X> 3.32) = 1-P(x < 3.32) =1-P(x < 3) =1-0.858 = 6.122