

Date: 1 1 = P(X=n n y=n-n) P(x+4=n) Now as X and Y are judependent

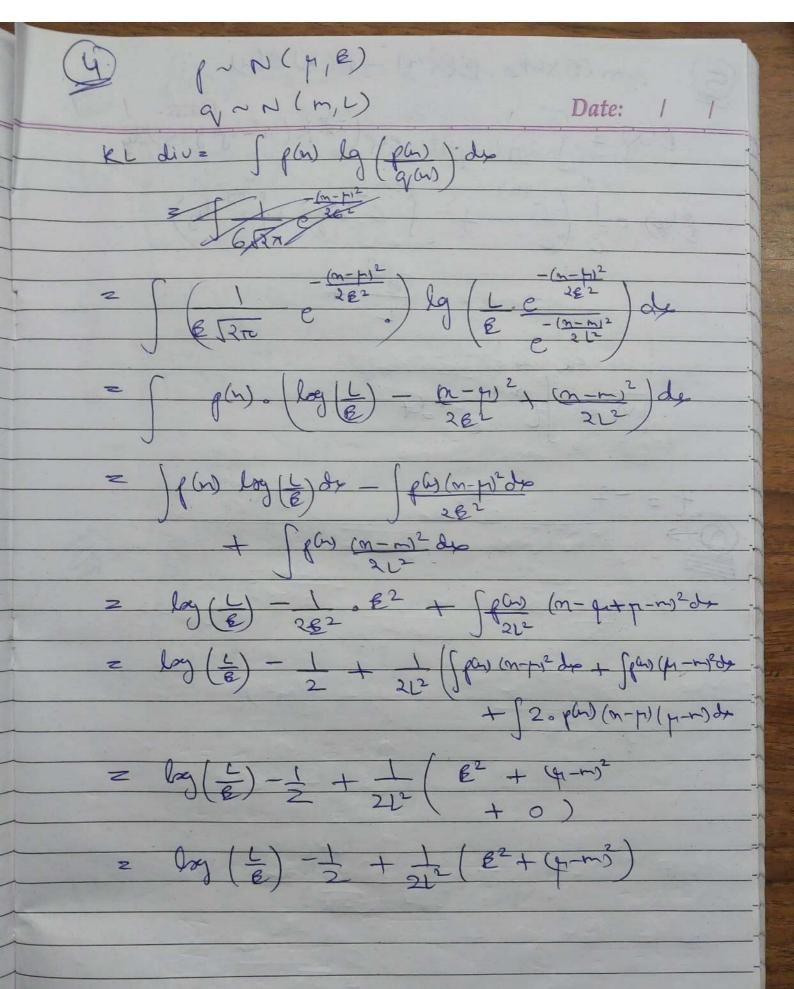
So. P(X2n) o P(42n-4)

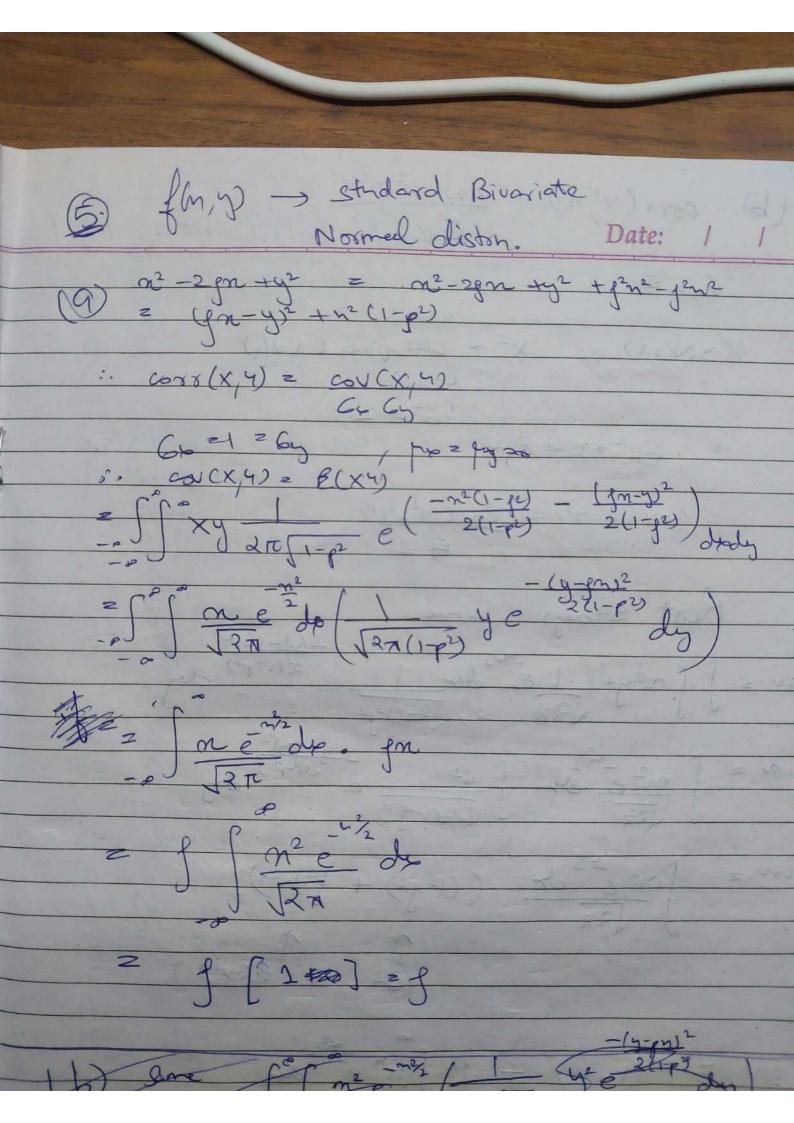
= e-12n e-n-1

2 (n-4)! and f (X+4 = 4) E(X+4) = $e^{\left(\frac{1}{2}\left(\frac{1}{2}\right)\right)}$ = $e^{\left(\frac{1}{2}\left(\frac{1}{2}\right)}$ = $e^{\left(\frac{1}{2}\left(\frac{1}{2}\right)\right)}$ = $e^{\left(\frac{1}{2}\left(\frac{1}{2}\right)}$ = $e^{\left(\frac{1}{2}\left(\frac{1}{2}\right)}\right)}$ = $e^{\left(\frac{1}{2}\left(\frac{1}{2}\right)}\right)}$ = $e^{\left(\frac{1}{2}\left(\frac{1}{2}\right)}\right)}$

(3/2) p(xw) = 1 1-t2, xn=t Date: 1, Now lim flu) z of 0 xn < 1 Honse of |x| = (E) = 1for all |x| = E: l ([Xn-01 < E) = 1 3 Xn - 0 Now, por convergence in quadradic lim B(|Xn-0|2) = 0 But B(xn2) = (1)2(1-1) + (n)2(1-1) E(X12) = 1 -1 +1 lim E(xxx) = 1 i. It doent onnerge

Now P(X>n) = foly) dy og of folydydn = folydedy = [(o(y). y dy gubstituting of year as y is just a verille = fe(n).nds





(b) corr(x2,42) = cor(x2,42) Date: 1 1 6x2 6y2 X~N(o,1), x2~ Chique (1df) con(x2,42) = con(x2,42) Rost Stays San Jary2 1 e. dy 1 e 2(1-p2) dy on 2 | m2 = m/2 - (9-1m)2 $con = \int \frac{1}{\sqrt{2\pi}} \frac{1}{\sqrt{2\pi}} dr = \left(\frac{1-4^2}{4} + \frac{4^2}{4^2} \right)$ (1-12) + p me de CON = (1-g2) + 12 for the det $= (1 - \beta^2) + \beta^2 2 \sqrt{5} = 2 \beta^2 2 \beta^2$ $\sqrt{50}$

Sequence of Rodon variables with exponential distribution and yarrameter B=3 then according to CLT ∑x;-nh ~ (0,1) 62 = B2 Jn62 Now Exi = X, +x2 + x3 -- XL We know sum of responsative distribution is a Gamma dietitletian so: Monee if $\Sigma xi = x$ $\frac{X - n(3)}{\sqrt{9}n} \sim N(0/1)$

Date: I from this X = 3n + z (19n) "X~N(3n, 19n)