## Div. from Info. Theory Div. from obles:

If we work to Lecike whether given then is from Light. In or V:

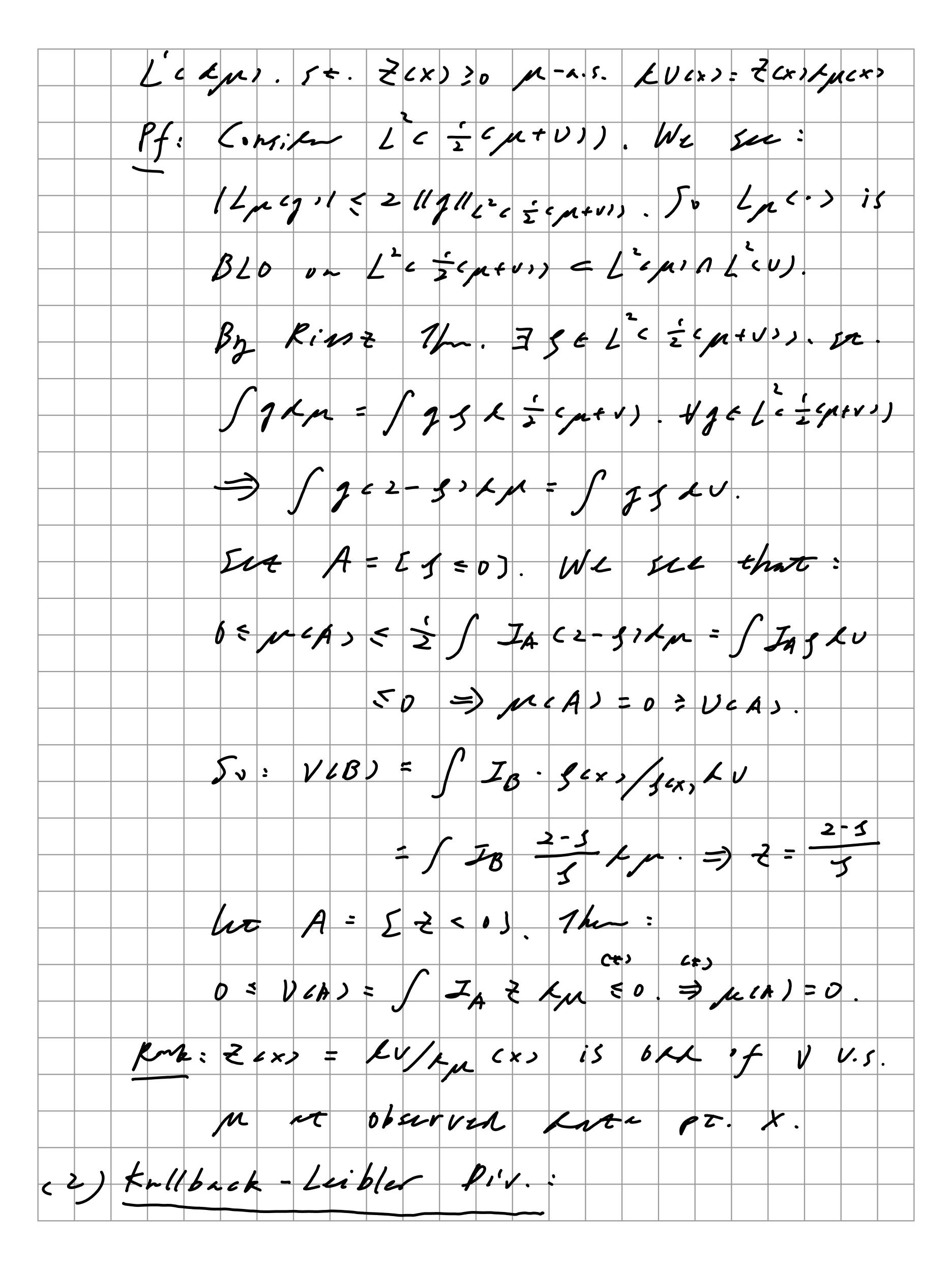
If  $\exists A \cdot B \in B_{ipt}$ . St.  $p(A) > \delta$ .  $V(B) > \delta$  and p(B) = V(A) = 0. Assume sample  $X = (X_i \cdot \cdot X_i \cdot X_i)$  is from p(A) = 0. Assume sample p(A) = 0. We can observe at least one sample is from p(A) = 0. The probability of that p(A) = 0.

Kmy: 1-61-maps) -> 1. So the conclusion can be reached exponentially fast.

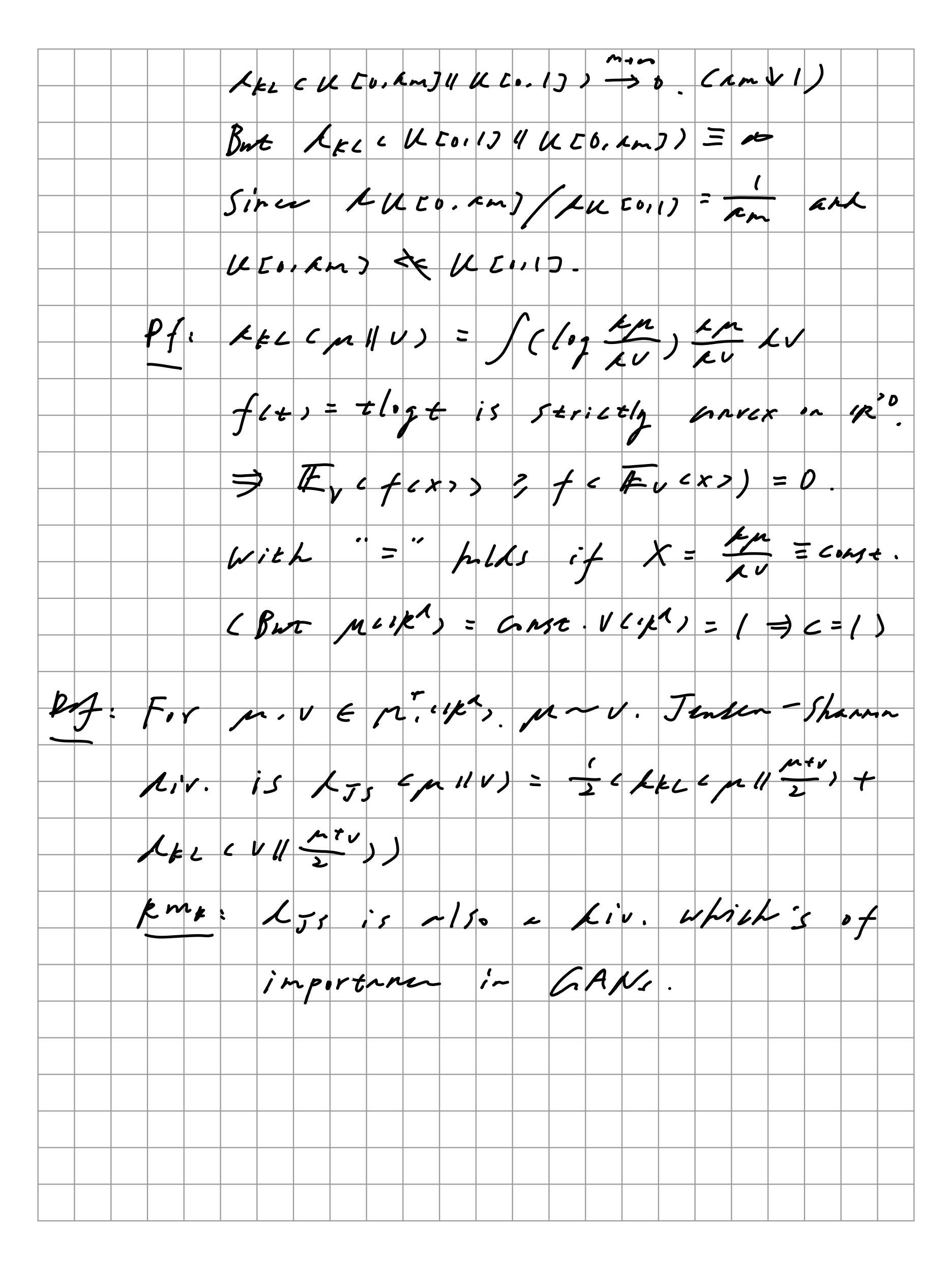
in) If provide it. Less in become uncertained on matter how many samples we know.

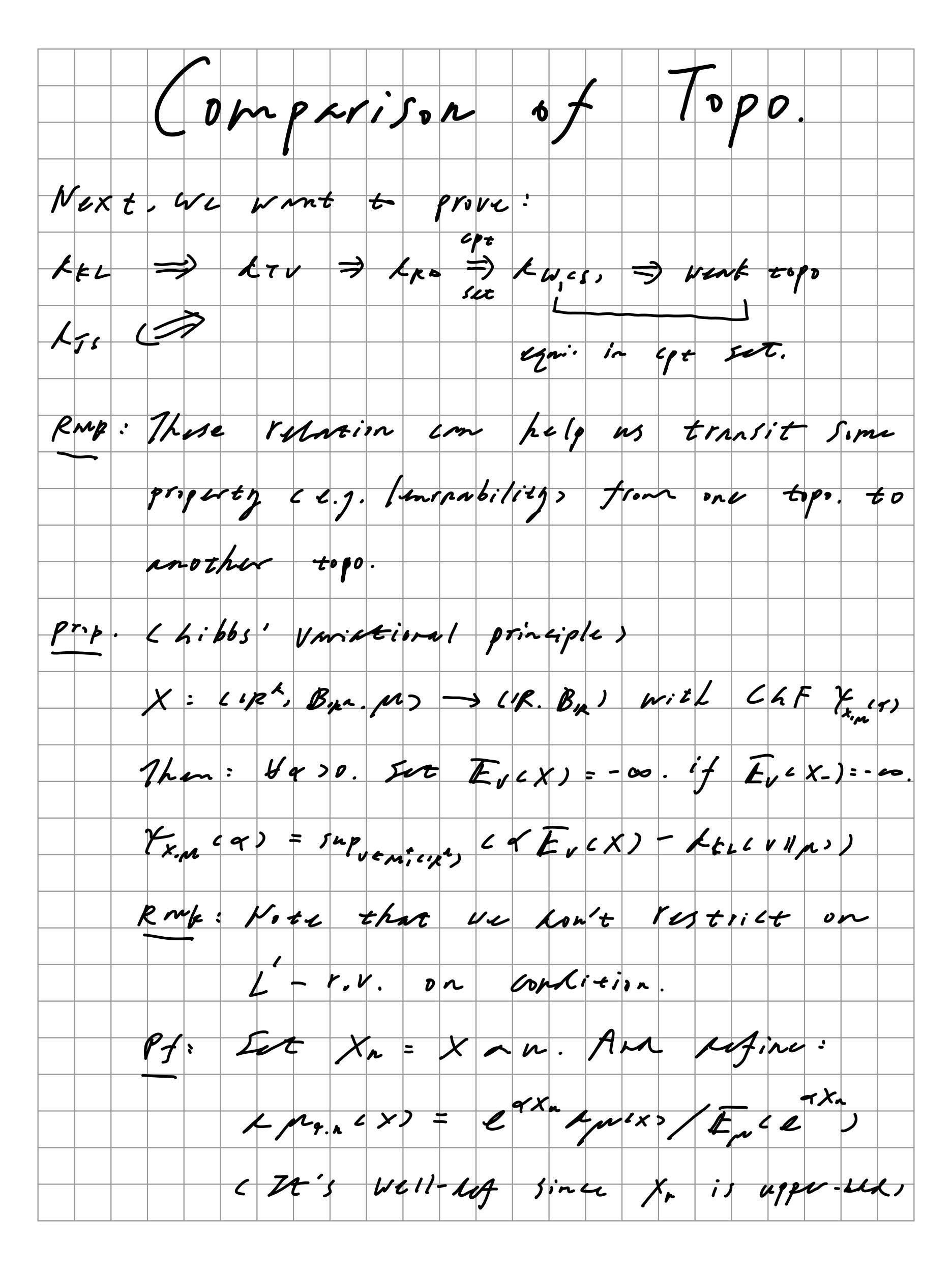
Thm. Ckason - Nikokyms

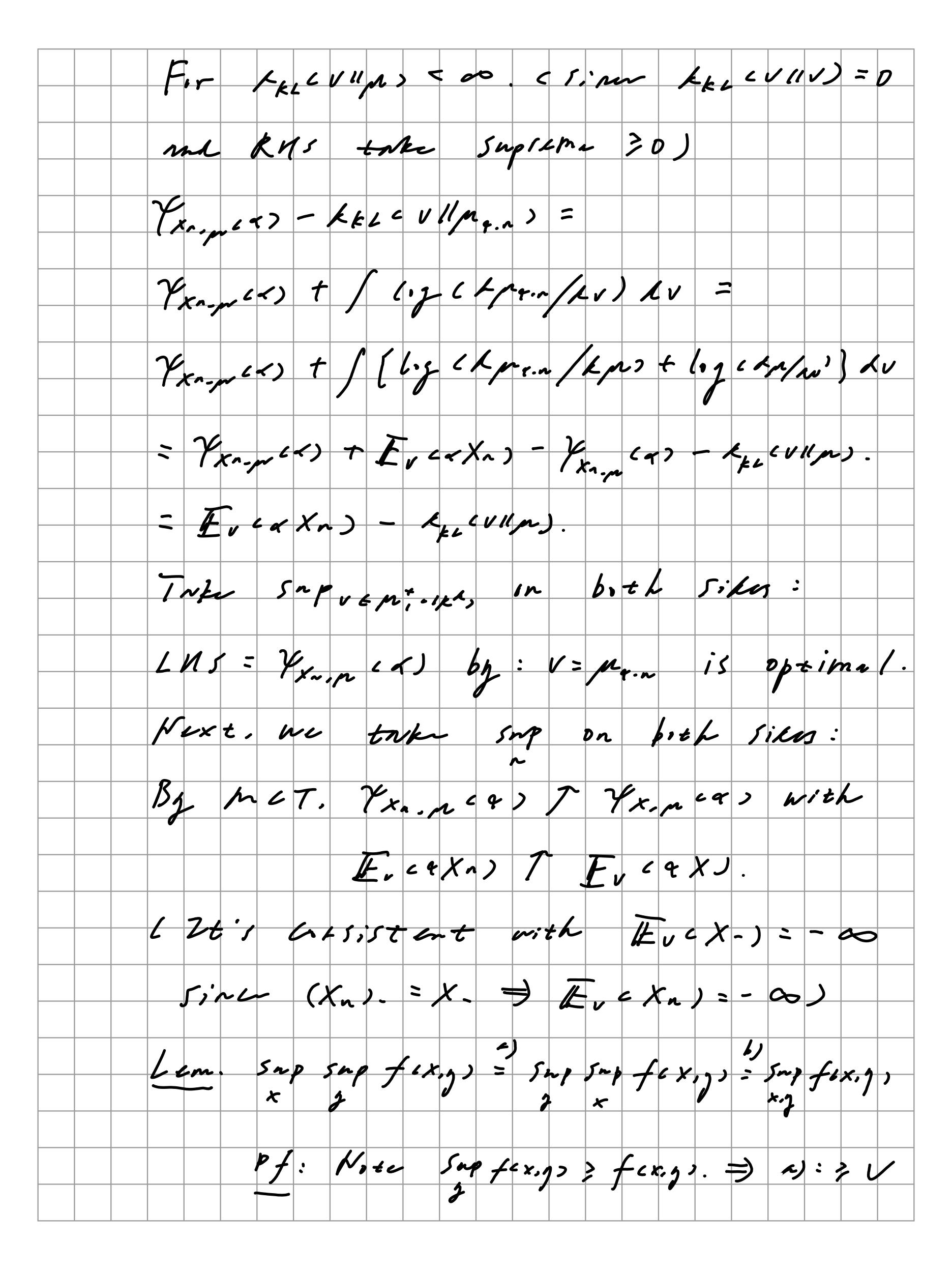
For pout mick. v<= p. Then 720xx6

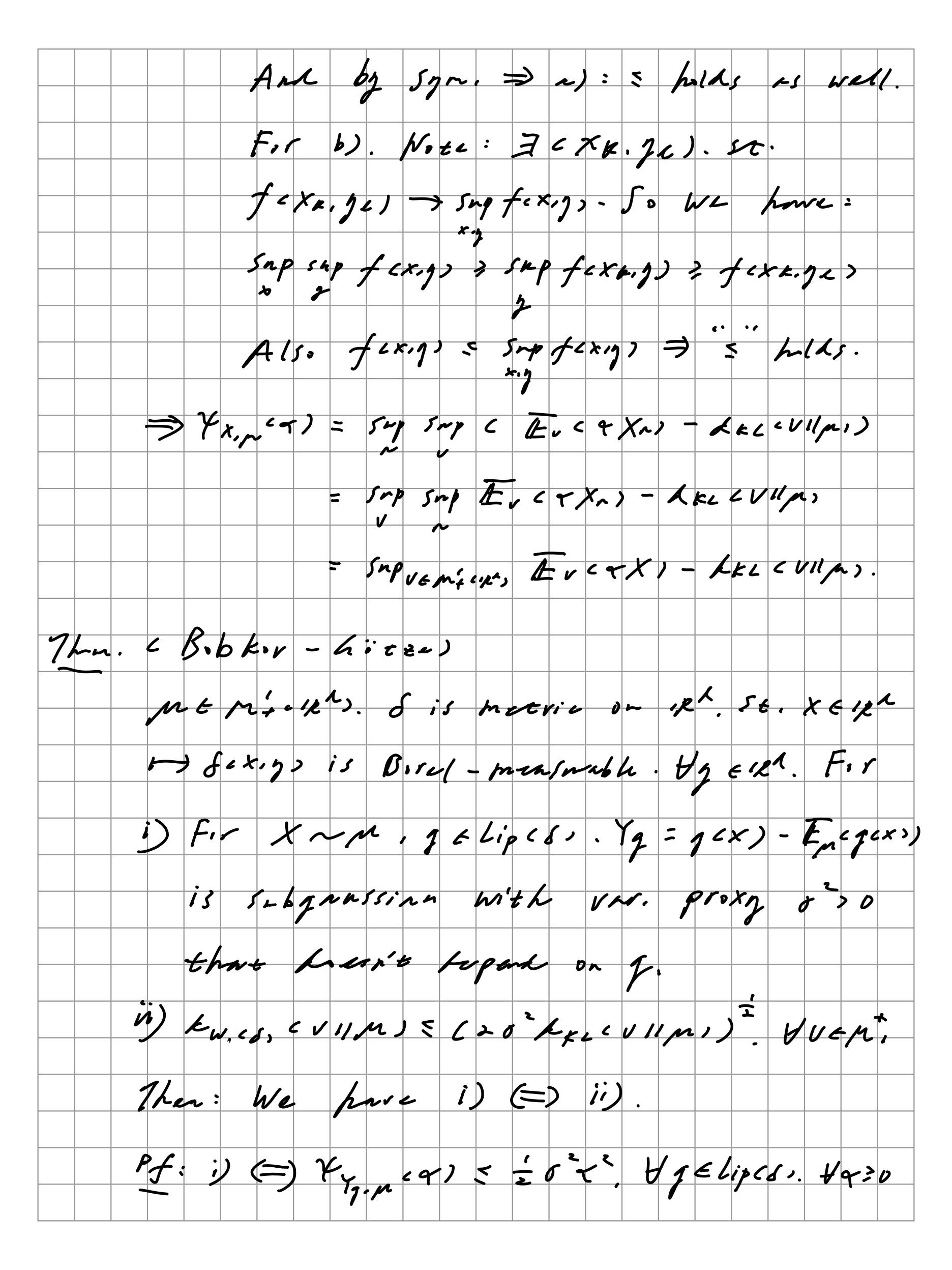


Def: For move mick. V<<p. KL div. is 1/2 = 1 (10) = 5 (10) - (x1) - 400x) Ruk: i) If v x p. We set kecpuv) = 00 i) If may. We have KELLMIU) = /-/09 c ducks / LMCXs. en. c Just inequi.) 1: I = R -> 1k'. Convex. Fir x. jex> EL > IE = 11XXX 7 ( Ecxx) Besilus if q is strictly and x isn't keoministic. = # Egexx) > Je (Exxx) 7 fm. For m. v & pt, cpt. Then: Kel collv) 30 ml KELCM11V) = 0 (=) M = V. Rm: KKL is a Livergena but not a metric on mich Claim: Thure's no partric Kc.,.) on m. 11/2, st. d ~ kkl. Pf: It's beenle LEL ish't syn:









1 5 mp 5 mp ( Eveq / 3) - Kke ( V 11/m) - 5 6 q 2)

1 tijes 1 420 VEM! unsintional principle. EKLL VIIm) IJelizes, = Ing { (28) / Lwiss, (VIII) - 1/4 (VIII) } 50: 1NX 50 47, 6-51/4 S=1.1. B=12. but with realing 10. 1.2. 37s EB. St. Snp 17s-X1 KIB + E. Mext. restrict vin emi(B): First note IMM above works when we replace Lipeds by Lipyed, and Tg = Tgx 1+ 7-1\* = 6025t. 50 1et p= 2. Then: 171x31 E 18 + E. V-2.1. HUE M. (B). 7 = Lipge 1. => By Holffling inequi: = 6 = c/8 + E)2. J: Lw. cl.15 CVIIps & C/B+E) (ZKELEVIIps) JrB (2 LK2 (VII)).

Note the Bobker & hitze Than above can be applich in any metric Son 12t. Dof: Metric of the Liserate topo Secx. 17 is Le ex, 2 = I ext 2s. Hx, 2 = 121. Amb: Zt's Venl metric. Cohest triangle inequi.) Lem. i) m+101/2 (1/2) = m, c//). j) Lipe Sk) = Egel - ge 1 sapg-infg = 15 i) KTVCM-V) = 2 KW. (82) Cm. V) on micks Pf: i) Since (X) & By = 4 + > 8x 4/2 is mensumble for Ux. And pote: Secry, RV = 1-V(Exs) 51 is) '=': 5mpg - infg = sup, 176x7-52501 5 82 cx. 12 \$ 1. D': 5npx, 176x>-519>15 (supg-infgs fack.go & & ex.gs. m) Set 1\*2xx = 16xx - = 1-P7+ infg) fir 76 Lip(12) = 119\*112 = 2.9 = Lip(51)

