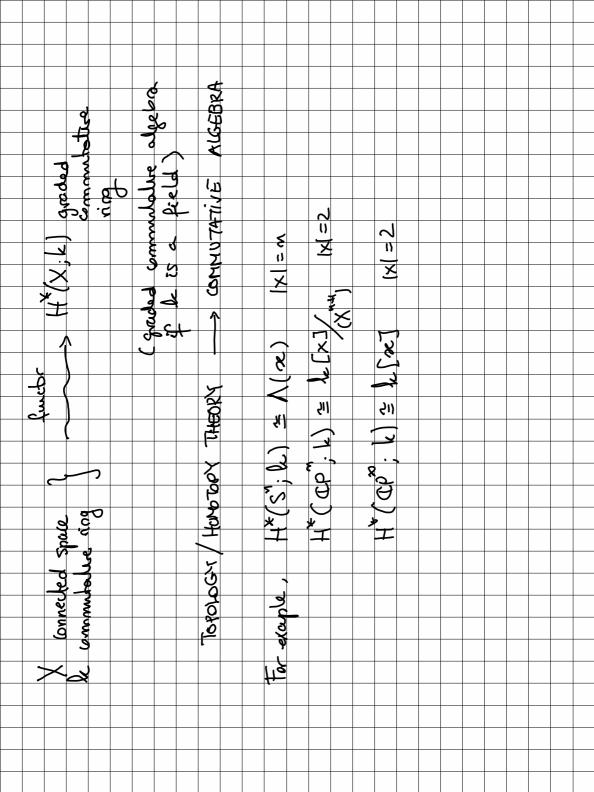
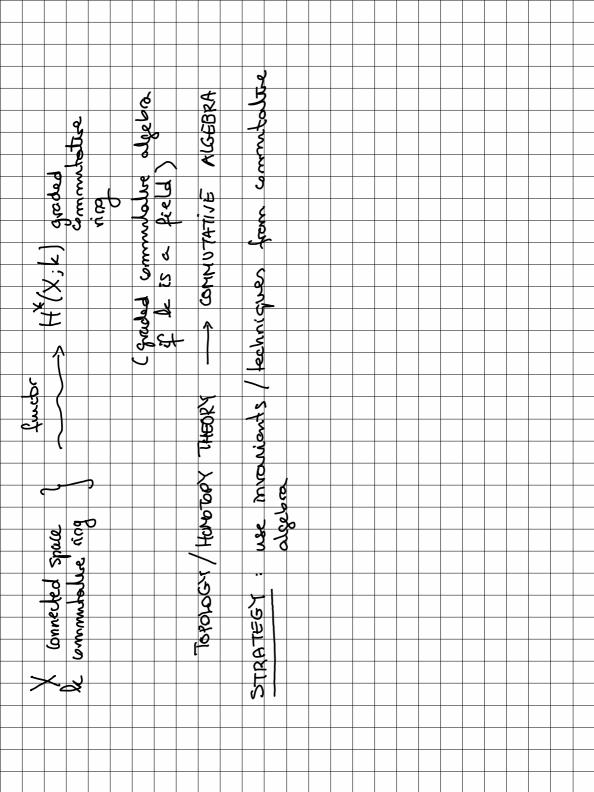
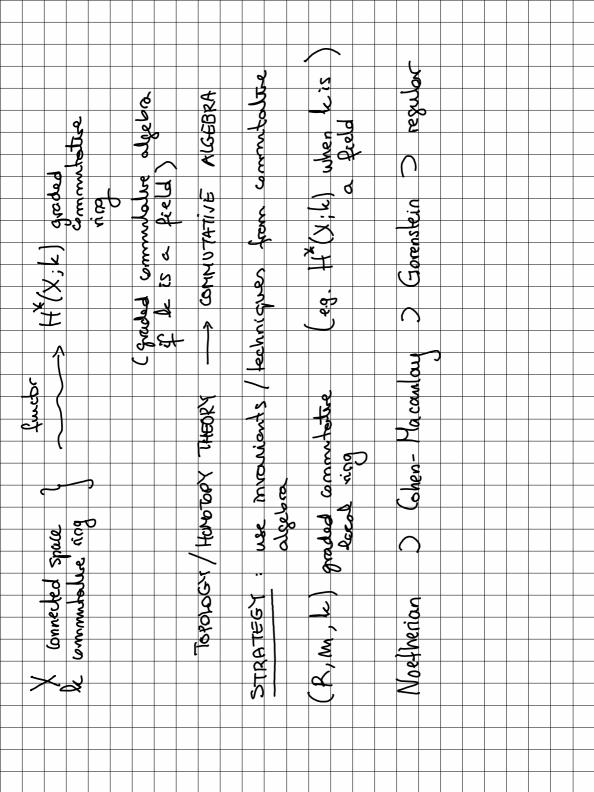
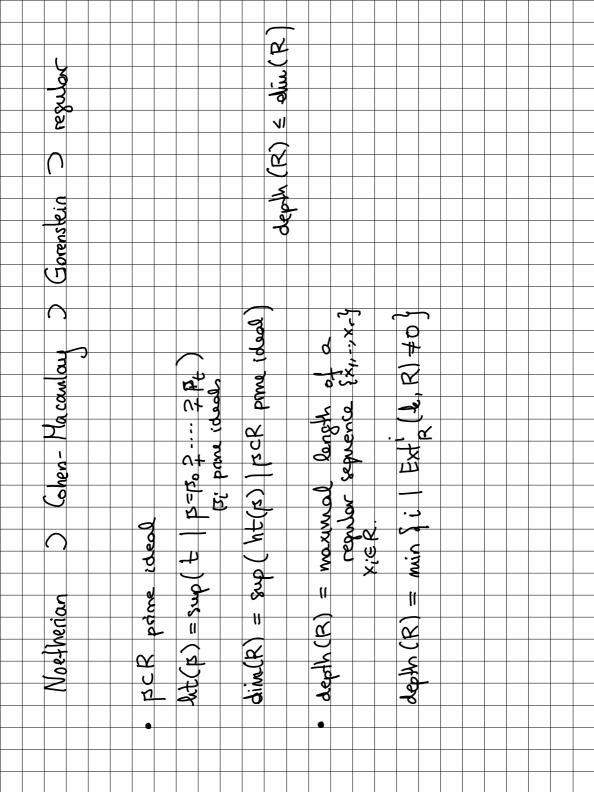


ALGEBRA gaded communication algebra graded constanchim Coshonology with car forcents ma nigg K-thang, Pield > ون $A(\xi) = A(\xi)$ -> COMMUTATIVE 2 is a عبصاطفكاه - Lopology TOPOLOGY / HONOTOPY THEORY : algeboraic commodue apa Connected space topological space 19: X - 9 - 1 compat 3one Examples

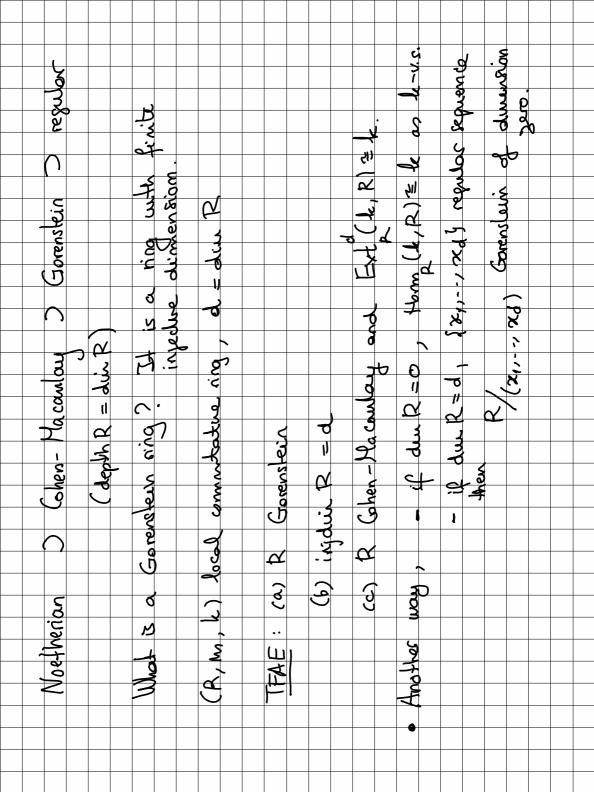


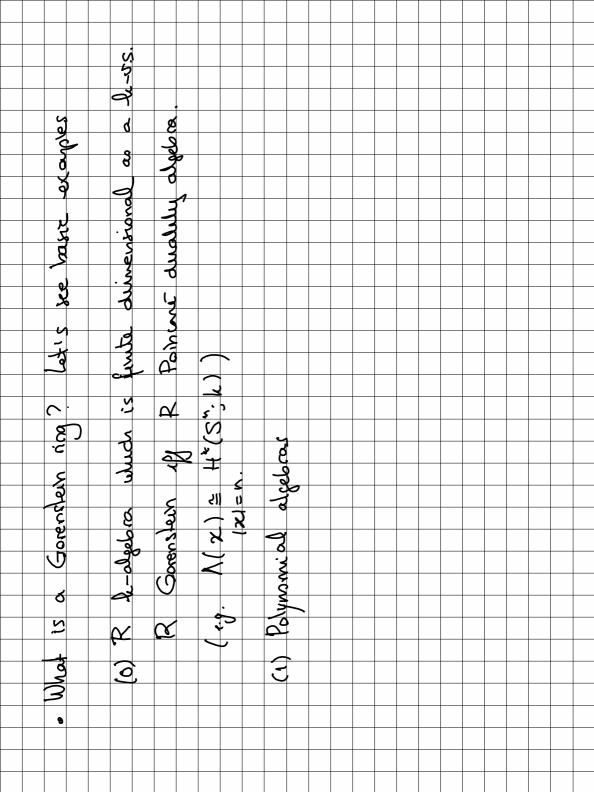






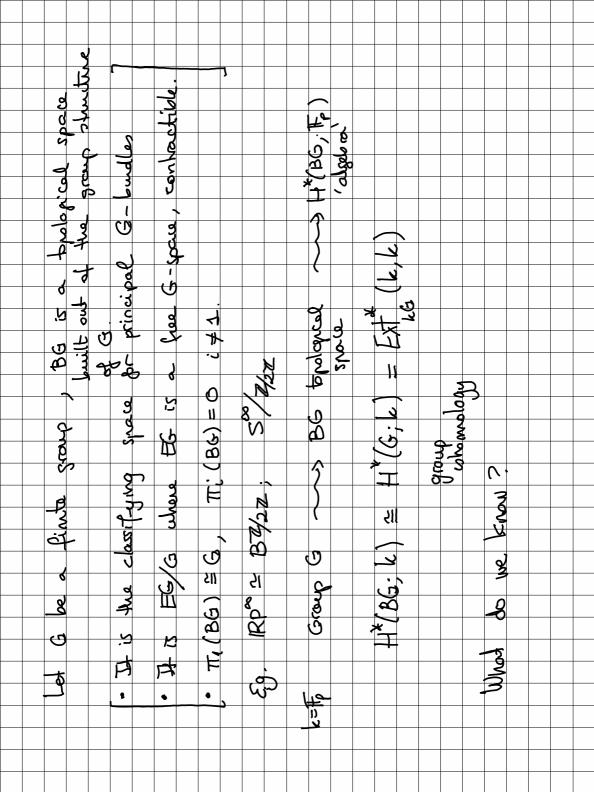
regular It is a ning with injection Gornskin Ø (A, My, k) local commessative ring, depth R = dur R (c) R Cahen - Ma company Cohen- Macaulay Gorensteun sing? च । Gorenslein (6) iriduin R (g) Noetherian ४ Soft is TFAE:

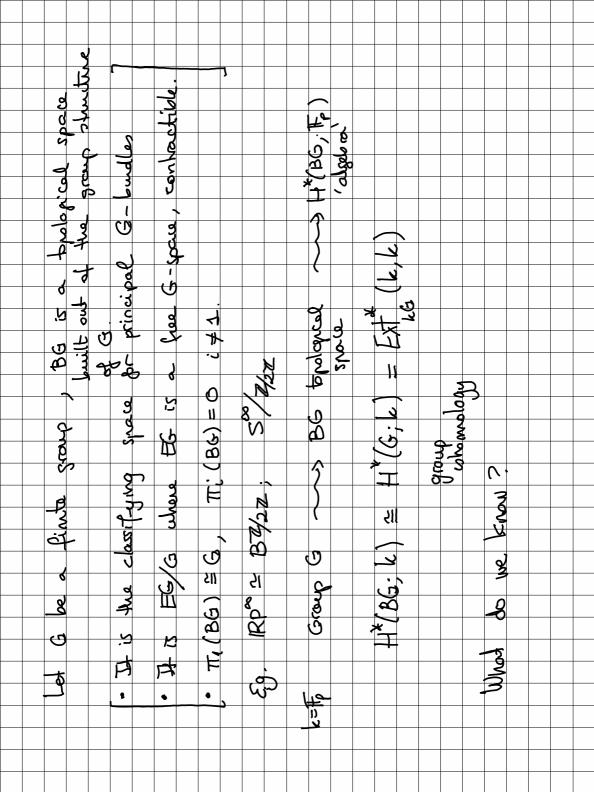


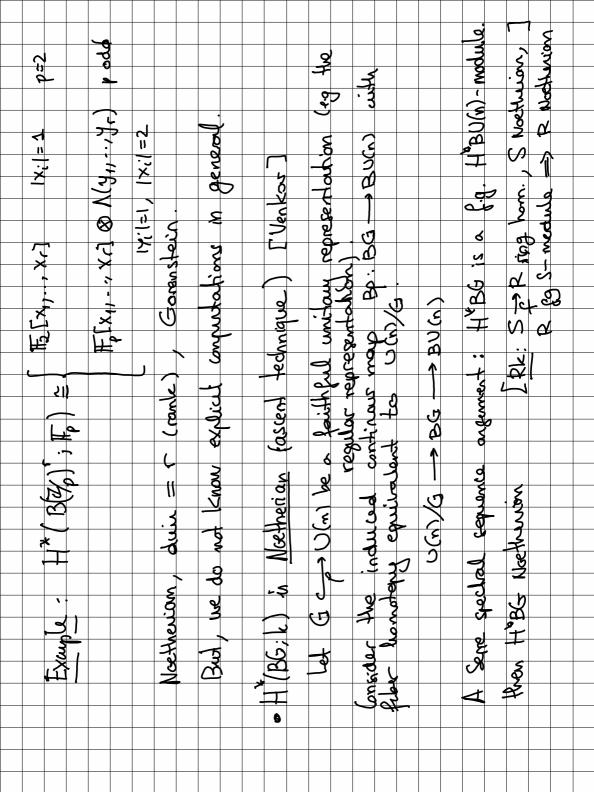


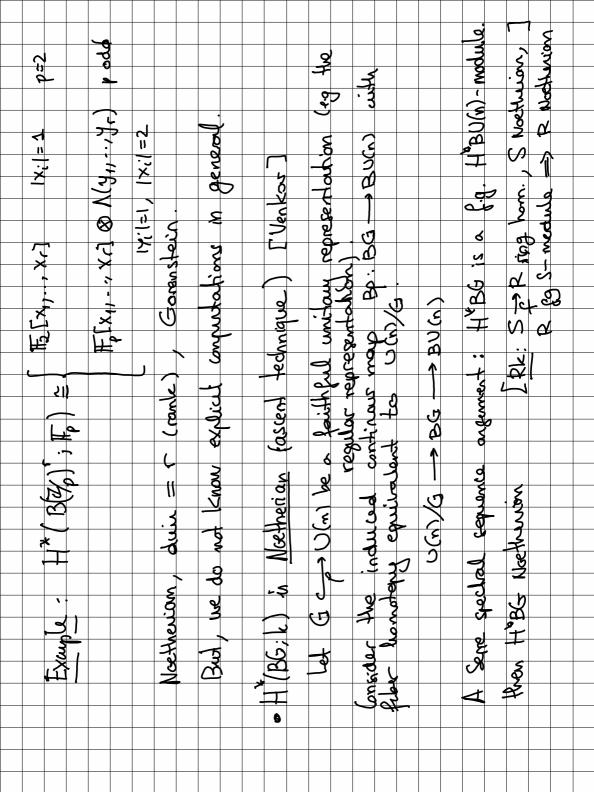
as a 26-55. Salchoxa Paintent duality algebra QUESTION: Can we duked these properties on (1°(X,16))
explicit conjuntations? drimentional se basic م الجما at what $\Lambda(z) = H^{\kappa}(S^{n}; k)$ 1/2 - algebra which is 4 Gorenstein ing ? 7 algebras (X = N. Gorenstein (1) Polymornial ব X · What is 9

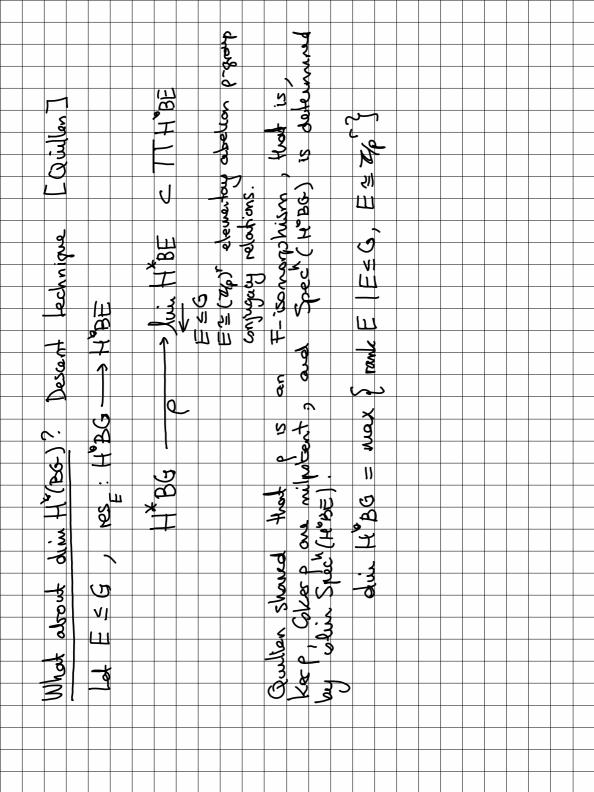
Cahen- Macaullon H(X;k) Garenstein in H(X;k) Porhant duality H*(X,16) without $(\lambda) \left(\mathbb{CP}^{p} \right)^{n}, \quad |\lambda^{k}((\mathbb{Q}^{p^{n}})^{k})|_{k} = \mathbb{L}[z_{j}, ..., z_{n}] \quad |z_{i}|_{l} = 2$ Noetherian, din H (((P)), k) = m, Gorenslein G leute Brown $dir H^{\circ}(x, L) = 0$ can we duted these properties on explicit conjuntations? BG (O) X frinks all-complex (X,k) Noetherson, (2) My favounte experple 2 peld QUESTION: Txanles

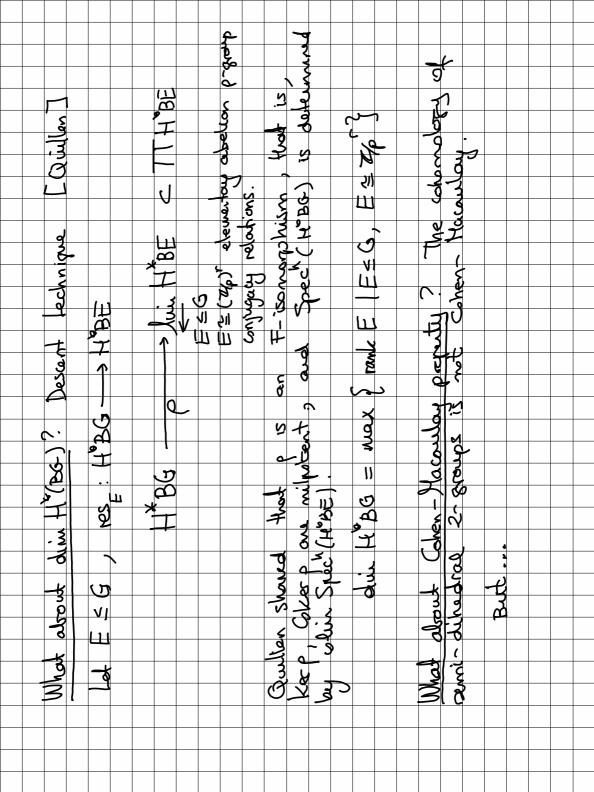




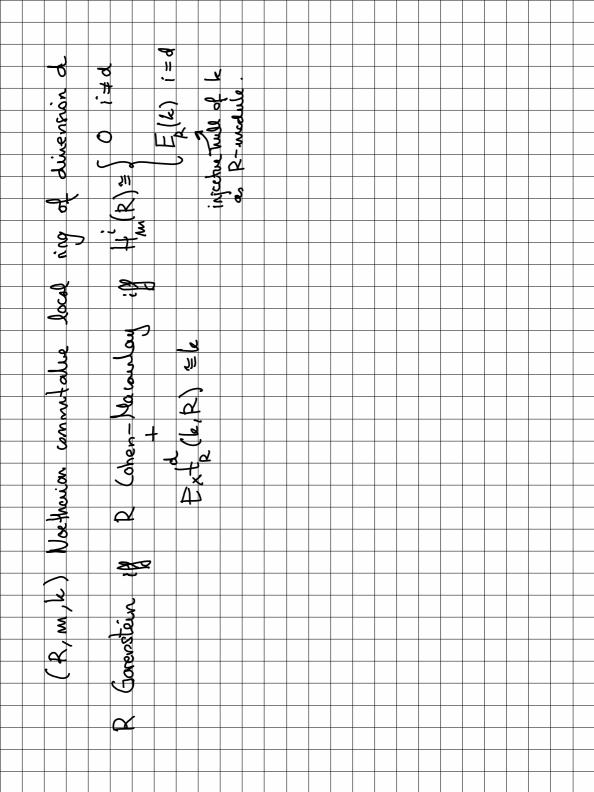


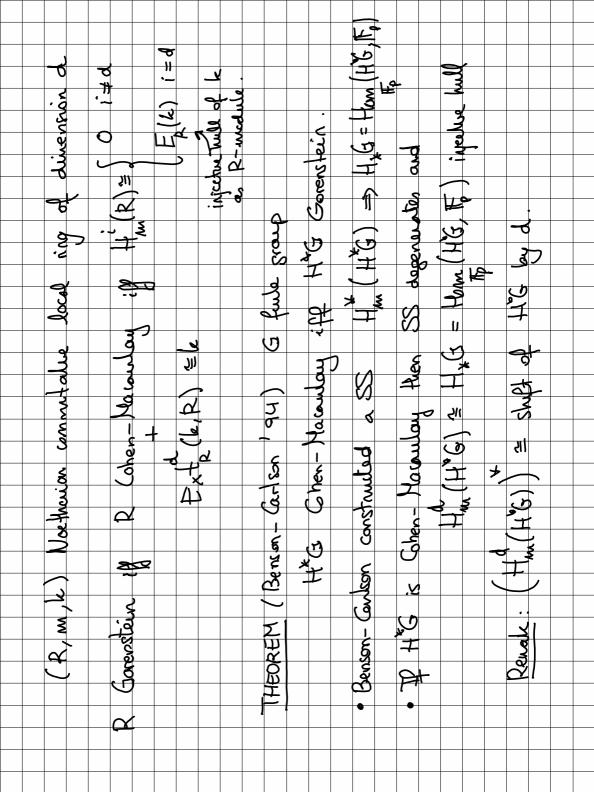




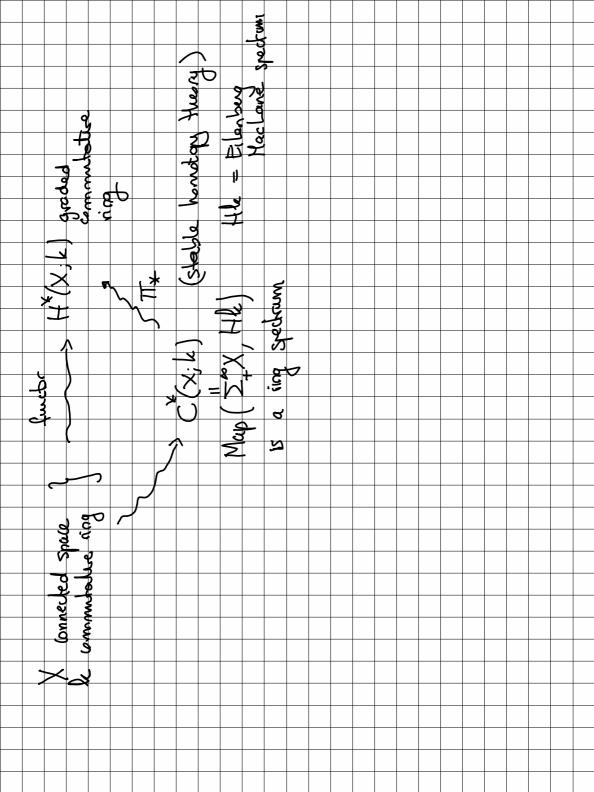


to understand the proof, we need other changesterns The function II. Mak I Mak is left exact. Then it H&G Gorenstein Gordon property Noethrenian vica G full group Dim =0 for some te/N s Ocal cohomology: R comunitation R-module Chen- Halandon TLCR ideal (カ り THEOREM (Bengan - Carlson) 工 = SmeM TXT TXC

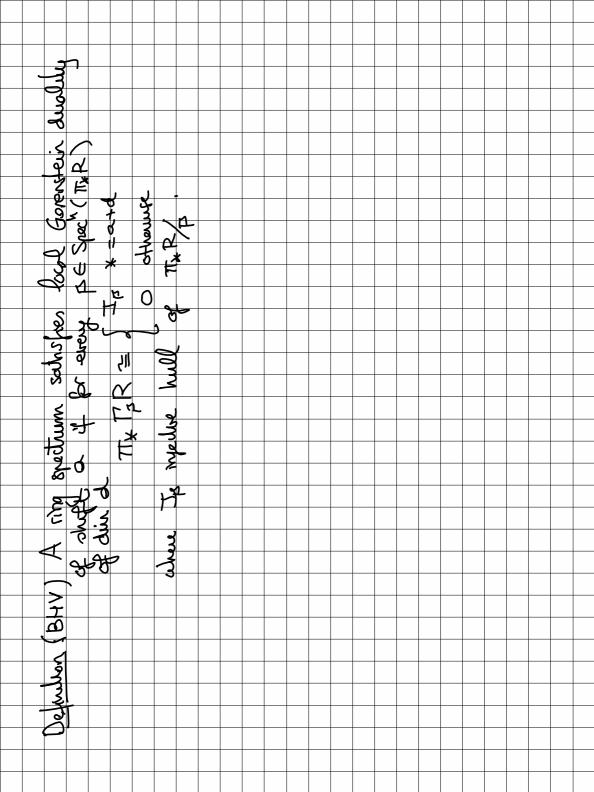


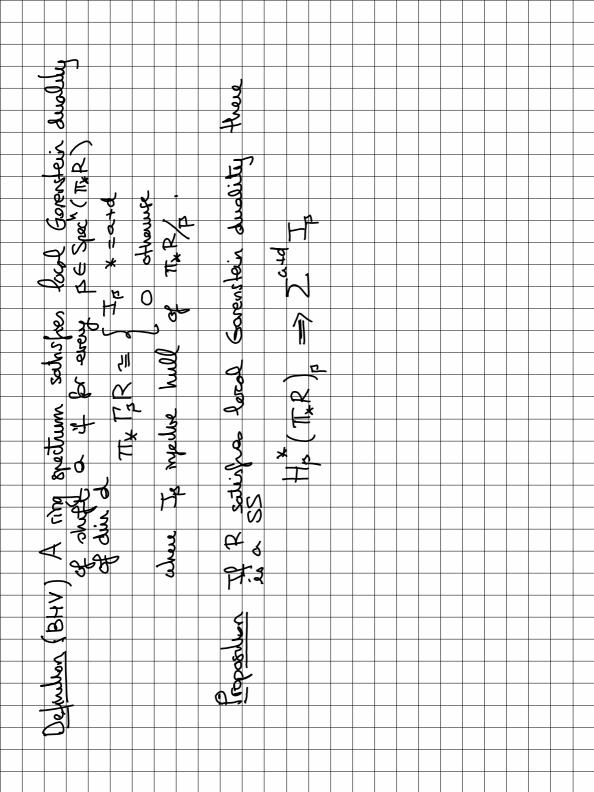


1 (HX) = Hx6 = Hom (HX) [F) - What is special about BC. That is, under which knyo theks or X ruch a specked sequence exists (then H'X Cohen-Macaulay ill H'X Goranstern HEG Gren- Macaulay iff HAG Sovenstein. G fulle Broup - Wat about other prime? H's Benson-Contron constructed a SS HEOREM (Bengan-Carlson) DUESTIONS:



He = Elenberg Hacland speckmin (Stable honoton theny) and conentrain alwality in specta. College up and graded Umye-Grenlees-Tyentar introduced spectral relation 1 . Med . 1 Monnatery a fing speckrum There is a spectal wariam of the We work in the context of stable more precisely ma opecha. R Gorenslany Commonate and Connected Space





(Gereenlaen) Definition (BHV) A ring sylectrum soluspes local Government durolly · p-local faite groups and pusion systems o they space with by canad p charmlony of shift of the Breight of Spach (TIR) · inpaint lie groups under anxionalien If R satisfice large Govenstein duality rechniques along pubarane TIX 72 8 = 0 = 8 = 3+4 O otherwise To module hull of The Rol (2) Apply to obtain new examples X1 >1 4 P-layed groups (TR) (1) Ascent din d Spales where Results

