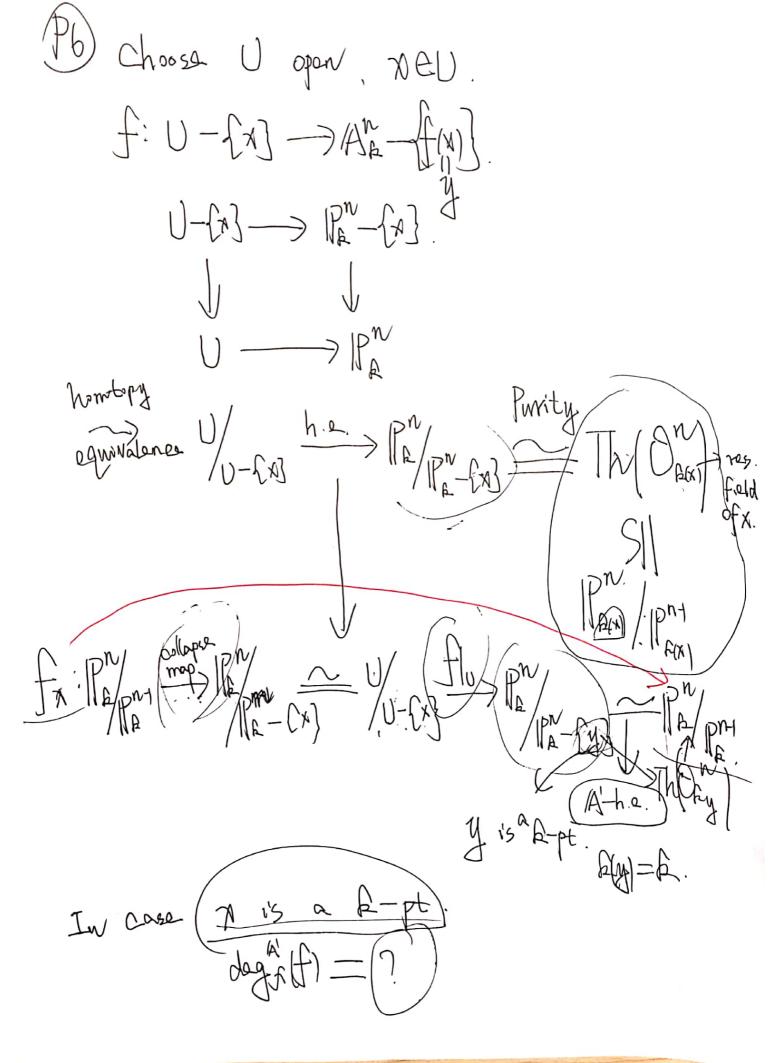
A is a field. Main Thm f: Ma -> AVE, f poly. Franction f(e) =0, 0 15 isolated zam. Han $dog \circ (f) = W(f)$ in GW(a). Moral's Thm. [12, 16 SHA) ~ GW(A). 1, defire Wo(f) purely algebraic. Good of Loday: easy computation of w(f). if f hay a simple zano at o. follow E-L's construction. 2/ define degof. I global formula: interms of usual degrees

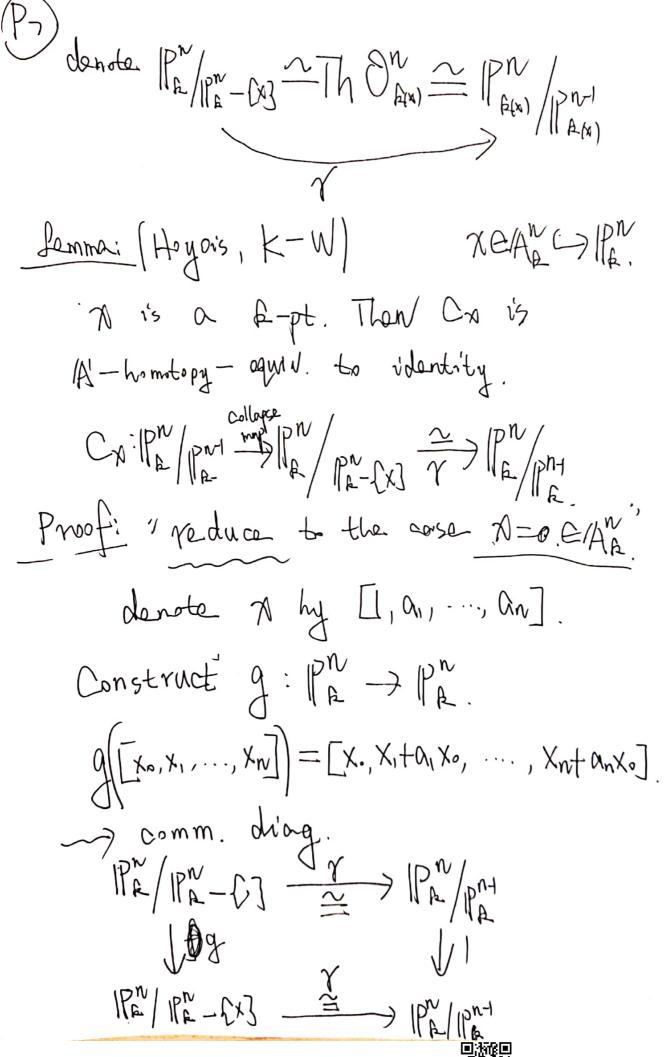
In topology. Por IRN HYEIRN dog f = \(\sign\) sign\(\text{Jac(fx)} \) &: field. PR=Proj A[Xo, X,,.., Xn] $P_{\lambda} = \mathcal{E}[\lambda, \dots, \lambda_n]$ $\mathcal{M}_o = (\lambda_0, \dots, \lambda_n)$ -> Py, Pmv ideal. $f: \mathbb{A}^{n}_{\mathbb{A}} \to \mathbb{A}^{n}_{\mathbb{A}} , (x_{1}, ..., x_{n}) \mapsto (f_{1}, f_{2}, ..., f_{N}).$ ti, fie wh. Assume of how on isolated zero at 1 of is a closed pt of AT. (x=, most cases) $Q_{\Lambda}(f)$, N=0, $Q_{\Lambda}(f)=Q$. Pmn/(f, fr, ..., fn) An com PN PN

Qdf) = Q i's Artinian Local ring. (Socie) of Q(f) 1'5 1-drim'L Jamms (Schja-Storch 1975) Sode (Qoff) = (E)) distinguished sode element. E= dat (aij), any EPx $f_i(x) = f_i(0) + \sum_{j=1}^{\infty} \alpha_{ij} \alpha_{jj}$ E E CAN M Def(EKL) p: a > k is a filinam for. define. Bb: QxQ > R | Hen Bb. ~Bb. $B\phi(\alpha_1,\alpha_2)=\phi(\alpha_1\alpha_2)$ If $\phi(E)\neq 0$, Lamma: \$1, \$2 R-linear St. How By is $\phi(E) = \phi_2(E)$ in $e/(E^*)^2$ non-degenerate.

Py
Dof (EKL doss)
W=<\\$1> & QW(Q)
Bo is the sym. bil. forms asso. to
φ s.t. $\varphi(E)=1$
Roma: Bp is indep. of choice of p.
Lemma: If f has a simple juro
at o. then
$W(f) = \langle \det \frac{\partial x_i}{\partial f_i}(0) \rangle$
Morel's A'-Brauwer degree.
Thm (Morel) (PI) M (PI) M SHE)
note that (PR) ~ PR/PR = Th On
Thom space.

rop ghobal formula in terms f: Ph - Ph finite. with f-(Ar)=AR induce f: IPN/PM -> IPN/PM -> Passto SHIR ~> deg A'(F) E QN(B).V. 15 2N We have, YyEAB, Y'a B-pt. $deg^{A}(f) = \sum_{n \in f(u)} deg_{n}(f)$ $Q: What is deg_{n}(f)?$ f: An - An y=fings a la-pt. of closed pt of ATE find fx: Pr/pn+ > Pr/pn+





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3 & Adpr) hos a notive himotopy $[\chi_0, ..., \chi_n] \times t \longrightarrow [\chi_0, \chi_0 + q_t \chi_0, ..., \chi_n + q_n t \chi_n]$ Nis a la-pt. We have. dag Af: = dag fx = dag fx where fx: Pr/ph YU flu Ar-

of global degree formula. DA ZEFTUIPA/PA-CA). 12/12/12/2-[4] No is pt Apply [Pa/IPa, -] SHE to above diagram. TX: End[la] -> End[la]. $\frac{[1]_{R}, I_{R}]_{SMR}}{\longrightarrow dog f}$ > E degrif)

Pio
Hoyois: A quadratic refinement of the Crothadolical-Lafschetz-Verdier trace formula
P: QV J. X E Scha.
1) V -> V linear automorphism.
S:X -> V zero section.
Thom trongformation
ΣV: 7+S*: SX(X) => SX(X); S! P*=: Σ-V
f: X -> B smooth, B: Boese scheme.
Bh = WAEnd(Ix): =[Ix, Px] SH(X)
Define Ix wdx = to (f# W)
$End(2x) \rightarrow End(18)$
The Color of Color on Fred (1) = Gralle)

Thm &CL finite sep. field and End(IL)=GrW(L)

V/L dimV<+& P:V>V @ Aut(V)

Pi) W := Bp., Thew P: X >B finite étale. B=Speck. WE End(Ix). Than Ix w dx & End(IB) is identified with 1B 7 Px1x~P+1x P+1x E)B n: 12 -> RMA PX IAM E: P.P! → 1 F. Nb Spack. MALPE: P. EPEP! 2 EPIP! E) E

Prop: f: An > An obsed pt. y 2-pt. isolated, If I is otale at X) than deg & f = Trans < Jas idea: describe for as in the lemma above. Where of is Jaashian. Proof: dfm: TAAR > J* TIM AR. The dfin Thom space

The dfin Thom space

The dfin The Are shown the space of the state of the s

