1 (a) (i) QS = QA + AO + OS

= 287 - 2 + 202

= 1(-6+0) - 0 + 1 6

(ii) - 27 = QP + PT

are an after the separation of the first

 $= -\frac{1}{2} + \frac{1}{4}(-a+b+c)$ (3)

= 4-(-4-6-6)

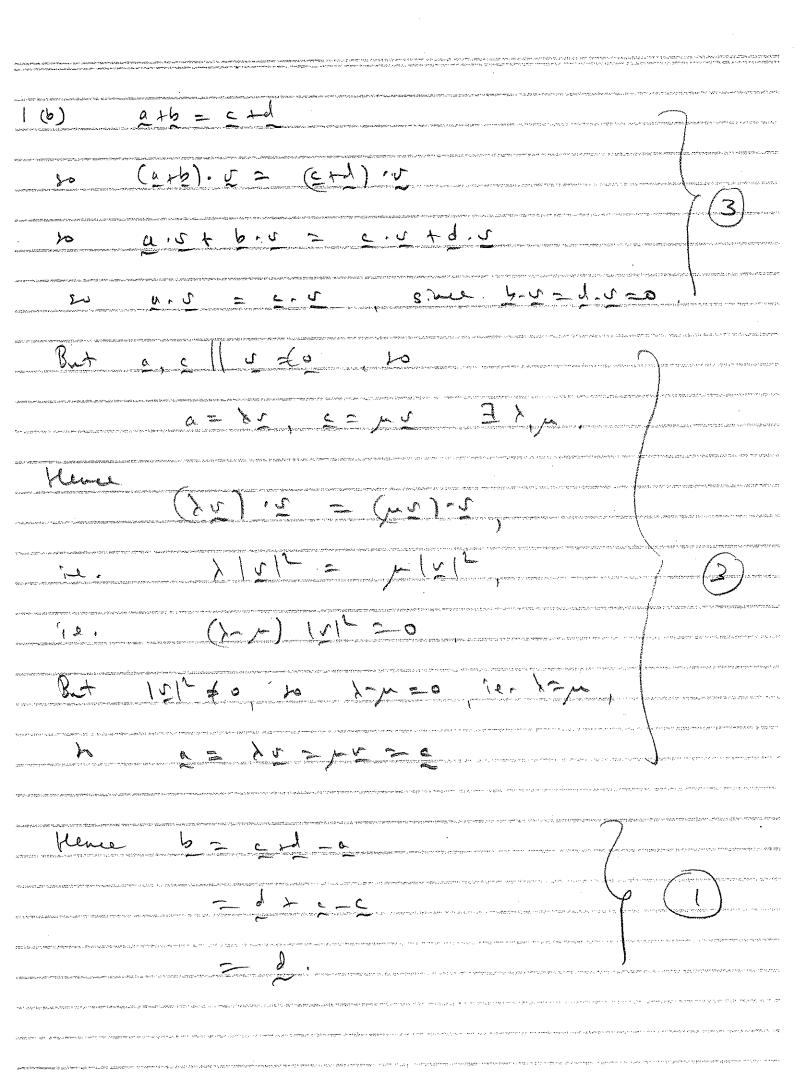
to QT 1/QS and T To the wilpoint)

I as, proving PR and as bisect continuer.

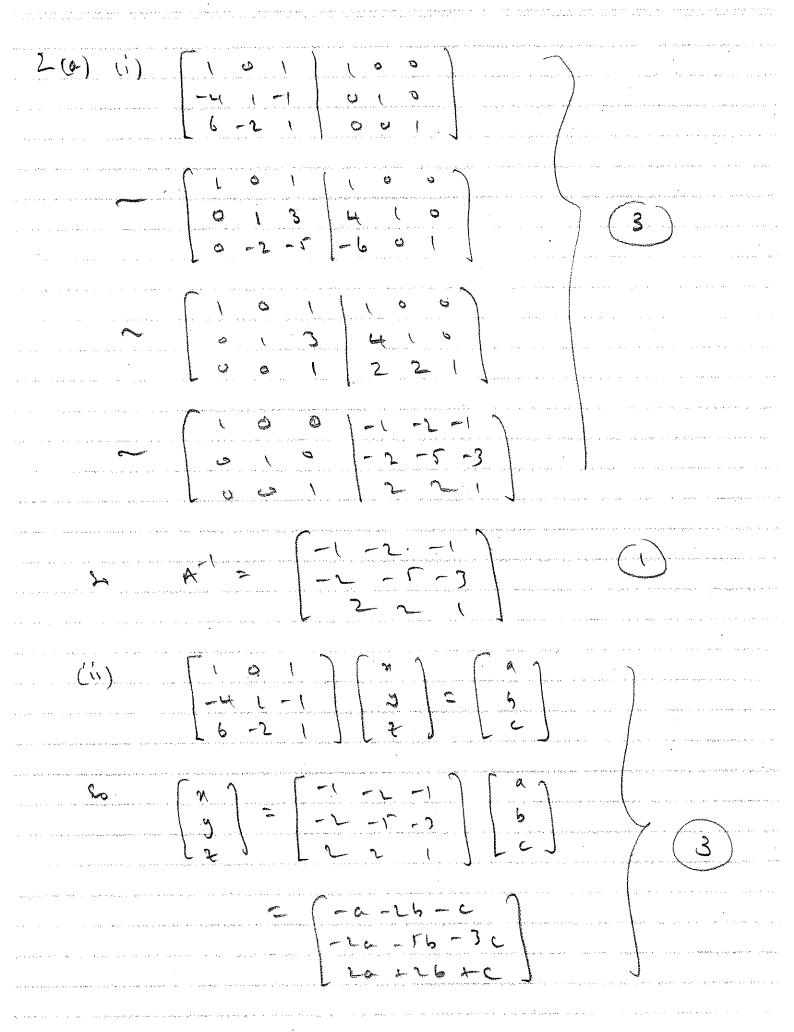
(iii) The periors argument works for each pair

of shew edges, is the interaction point for TO

ead pair must be common.



Alterative sultin (Hat 120 and the second s 5 1 in the state of th a de la la companya de la companya d



26) let 4 be Pty, 8 be res. Then AB = Im gives yor and pasam, while BA=In gives s=1 and r=q=n. (3) Henre A is myn and B is nxm. Even som end A os in a mappe 2014 How columns, Aller now relacing A we munt have a row of server to EA has a me I seas, der some invelible / matrix E (product of eleventry making), But Hen E = EI = EAB = (EA)B must also have a rout of sents controlling that E is melible. Here was out A, B are ux

3. (a) Fund. Them My: Every mu was breat polynomial
3. (a) Fund. Them My! Every mu was breat polynomial to be a part in C
14 M : 1 a square works them det(M-)2) ?
is a nonunclast polynomial, which Herebore (E)
has a not in C, while is an eigenstale of M. J
(b) The equality p(M) = det (M-MZ) is take,
became t intil whilehim, giving was
(2M-M) the radius a guilling a scalar
thept we nel, who he remains it vill ?
(e) Let p(x) = let-(n-x1) = x'+kx+l = x,)
By Copley-Hamilton, MithMHLI =0, 10 (3)
M = -kM - kL
This we may take a = -k, b = -l and the deline of the claim held for n=2, storting an induction.

30) (untinuel) If now then, by an industrie by withers M= M(M") = M(a,M+ b, 1) by some integer and, but to that M's and the M = and (-hM-12) + buy M (3)= (-an, k+bn-1) M + (-an, 1) I = and - Vate and (-and the) and be a mand and the dain bolds in general. When M= [01], P(X)= x(x-c)=1= k=-2x-1 M= 2M+2) M3 = 2m2+M = 4M+2I+M = 5M+ZI (3) M = 5 m + 2 M = 10 M + FI + 2 M = 12 M + FI MT - 12M + 5M = 24M+12I+5M = 29M+12I ۵,= کم , لا= ۱۷

