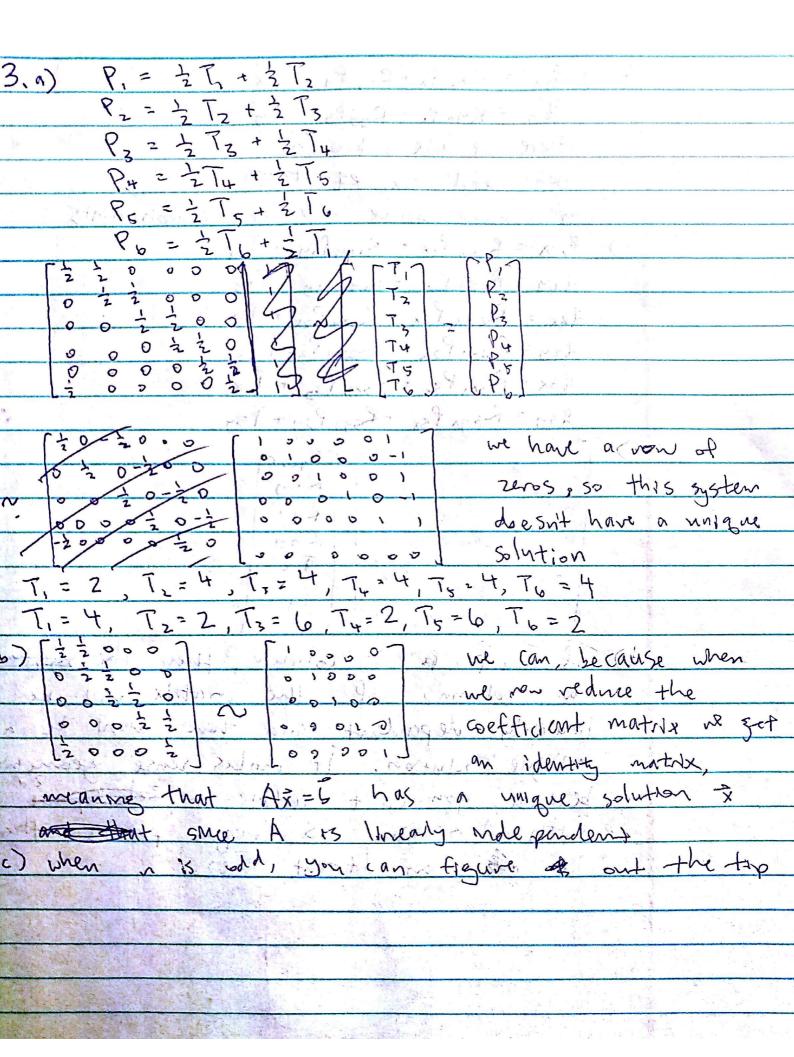


2. if v_n is dependent, then $e_i \times i$ to $e_i \times i$ then for some constants a, .. an if me multiply un by A, me get any, + anxx2 + · · · + anxn 7 if we mantiply each element the Mear combs of this vector can be witten as (a,+...+an) x, + (a, 2) + ... (a, +...+an) xn and since we know that Cixi+ Czxztin Cnxn=0 from the original vector,

Ci(a,+...+an), (2 (a,2+...+anz), (a,a+...+ann))

(a,+...+ani) (a,2+...+anz) (a,n+...+ann)

therefore, & vn multiplied by any matrix A will be I mearly dependent



4. a) 8x = Rxx Px + Rxy Py + Tx By = Ryx Px + Ryy Py + Ty there are STR unknowns you need six equations you need three pairs of common points 81x = Rixx Pix + Rixy Piy + Tix (d 21y = Riyx Pix + Riyy Piy + Tiy 92x = R2xx P2x + R2xy P2y + T2x 92y = Rzyx Pox + Rzyy Pzy + Tzy 43x = R3xx P3x + R3xy P3y + T3x 93y = R3yx P3x + R3yy P3y + T3y SO LOVON 300 (Paxx) d) If P, pr, Pz 13 colinear, then the system columns of the matrix will be linearly dependent and there won't be a unique solution. It makes sense geometrially, because you can't define a 3d space with whess than 3 unique points that he is an differt Times