Question: now many cars are on the unlabelled woods



$$-x + \omega = 130$$

$$z - y = -30$$

$$Y - z = -140$$

$$2 - \omega = 60$$
This your jub to convert the problem into

Question: What is the best opproximete ellipse? (min. least s jucros, week 8) ! Check out the damos! In a population of relabits, Example: (1) Helf survive first year (2) Half survive second year (3) The max life span is 3 years

(-1, n): 1 + n - c - n + E + F = 0This is a system of G linear equations in 5 unknowns (B,C,D,E,F). Turns out (uill know how leter) that there is no solution.

(0,2): 4B+ + 2E+F=0

(4) Each rebbit produces on every O, G, & offspring in years O, I, Z resp. Question: How many rebbits in 100 years? step O: Give nemes to inknows Xn: # of relobits ege 0 in year M Yn: # of relobits ege 1 in year M Yn: # of relobits ege 2 in year M Zn: # of relobits ege 2 in year M $X_{n+1} = Gy_n + 8Z_n$ $\gamma_{n+1} = \frac{1}{2} \chi_n$ 2n+1= 2/~ A system of equations like this is called a difference equetion. De'll solve then using Cigenvelus and Licgenalization in oack 10. By demo, retio of rebbits cycd 0:1:2 is eventually 16:4:1 and population doubles each year.

Def: The solution set of a system of equations consists of all volus of the vericles that satisfy all equations simotheneovely. Question: What does the solution set look like? One equition in 2 variables: $X - 2\gamma = 1$ Π^2 Λ One equation in 3 veriebles: x+y+Z=1 plane in TZ2- 3-dim. space One equetion in 24 variables: "3-plone in R" Note: The 4th dimension can be lots of things, Einstein read M2 to model spacetime. 2 equetion in 2 variables: X - 2y = l 3x + 2y = lLines intersect in goint, one solution



Question: How many ways can 3 planes intersect in IR3?

Lo zistics: Course relopage and Sallai announcements, Gredebook, Selkai for Gredescope Access Gradescope via Sekei teb Ed discussion: ask ell metil greetens here. Textbooks: Strong, Morgelit- Rebinoff Orizzes: 10-min grup quiz acch week in discussion. Homework: Use a scanning gp for HW. Tay payes. (11) Help resources in syllabors. Recorded lecture on Wappine vie Sekai Dotch before Monday. HWI due Monday. 2180-1 (002)