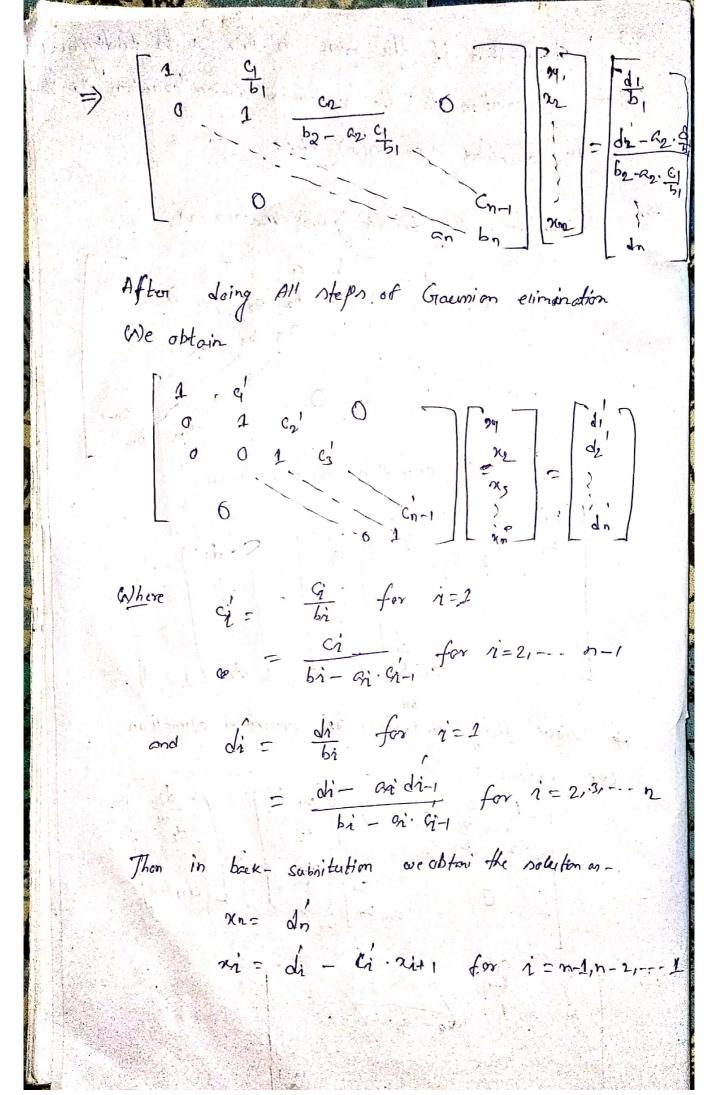
23. Show that if the new matrix A is tridingonal then a polution to the system of lineare equation. Ax= b can be obtained in O(n) step. consider the tridic good matrix as $A = \begin{cases} b_1 & q \\ a_2 & b_2 & c_2 \end{cases}$ Then the equation Ax = b, becomes. i Now Dainy the Exteps of Gamian elimation



Complex city 1 Growni om elimi nation-Multiplication/ division: -14 x+n-x+x+n+n++2n c. 502 b) Addition / subtraction: -= (3n-1). back subsitutioning e) Multiprication/ division :-(n-1). b) addition / subtraction: - (n-1) 501 Total compleneity = 152+31-1+261-1) = 5n+ 3n-1+ 2n-2 =(18n-3)~ 0(2) So, For a tridiagonal Matrix A, the solution of to the system of linear equation is order O(n).

the system of linear equation is acted O(n).

This particular Application is Called

Thomas alogon that