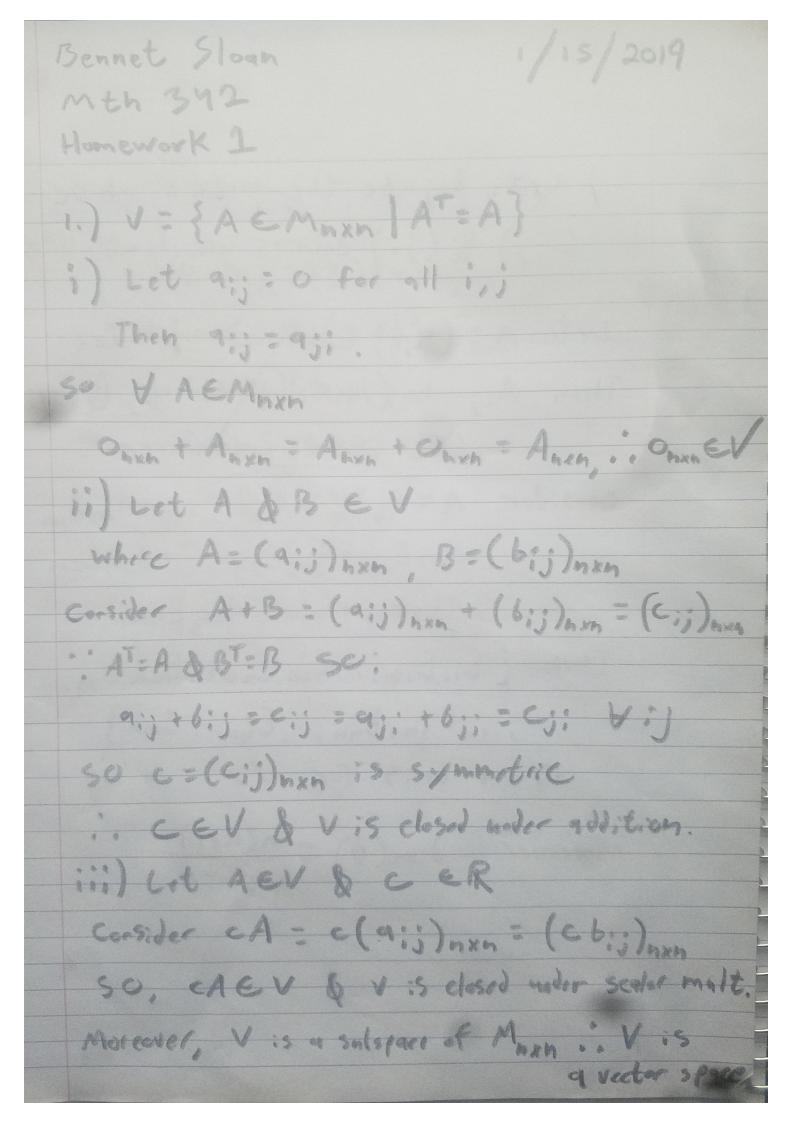


3) Let To: R" -> R" be rotation by angle 0, in particular, Ta To = Tato Deduce formulas for sig(a+B) & cos(a+B). Let To = [cosa -since] & To -[cos F -sin B] Then Ty Tp = [scook cos B + cosoks of cosokes B-sind sind = Tx+p [cos(x+B) -sin(x+B)] SO SIN(X+B) = SINCE COSB + COSK SINB cos(x+B) = cos aces B - sinasin B



b.) Let Ei; be the matrix whose (i,i) & (ji) entries are 1 with 0's elsewhere Let A: (9;) EV be any index Then A:; has value I at a ;; & as; withe Zelo's obsendere consider A = A, E, + A, E, + Min Ein + A22 E22 + A23 E23 + ... + A2n E2n + A 3 5 5 3 7 + ... + Ann Enn Then (E., E. 2. ... Ein, Ear, Ear, Egg. ,.., E 3n. Enn, ... Eyn. Enn) 13 9 60919 for V. Moreover dim(v) = h(h+1)