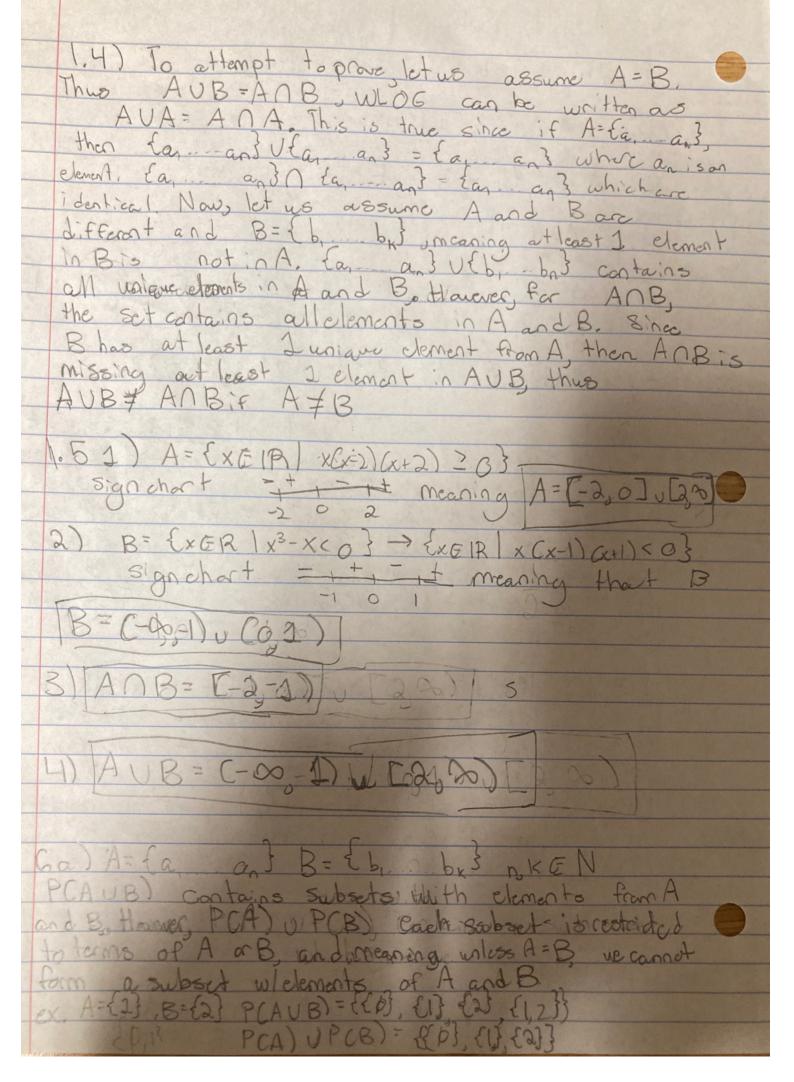
Math 65 HW 1 1.1a) A UB= { 1,2,3, 4,5,6,7} b) ANB={C} c) A-B= {1,2,3,4,5} 1) B-A= { 7} e) $A \times B = \{(1,6), (2,6), (2,6), (2,6), (2,6), (3,6), (3,7), (4,7), (5,7), (6,7)\}$ f) PCB)={{\$\phi\$}, {6}, {7}, {6, 7}} 1.2 For S=T, SST and TSS. Looking at

S EXER | x² < x} of the perform. JZ(x -> | X < 1

Sfc > S < x < x door as x² is greater than of for x & IR

This means o < x < 1, which is T. For T= {xG|R|o(xc)} multiply the inequality by x giving us we shaved earlier, x must be greater than 0, so we can conteit as x2x, and that TSS, and SET 13 a) Ano hin = O meaning that for XER, it is contained with in smaller and smaller sets for nEN except o. Then, for Unon An we can n= las ausolution meaning ond An = 603 means the only overlap is = [-1, 1] For Man as ninocases, b) UBn where nENGrazz starting at icxx = Sione a increased by I, and (n+=)-(n-=)=1 then

OB will contain all x EIR, for x2 2, with the exception of



1.6b A={1,2}3} B={1,2}3}
PCAUB)=PC{1,23}={B, {1}, {2}, {1,2}} PCA) = {63} {1} {23, {1,2}} = PCB)

150 PCA V (PCB) = PCA) since A=B, and PCADB) =
PCA) (PCB) 1.60) The condition conwhich PCAUB)= PCA) UPCB) is when A=B. Let A= far and =B.

AUB={a, ... and U{a, ... and = A thus P(AUB)=PCA)

The equation is PCA)=PCA) UPCA), PCA) UPCA)=PCA

as the sets are identical. To show A=B; sthe gonly condition let us assume A = B, A= &a, and UB= &b, b, b, o, KEN his toleans B has at least I dement noting elements, and will consist of subsets Containing elements from A and B due to definition of I, by defor power set contain only demont consisting of elements from A and B. P.(AUB) & P(A) UPCB) +) UPCB). While assumed BundAhad no common elements, as long as B has at least I unique themont if warks, as PCAUB) will have a subset of fa, an by which cannot existing PCA) v PCB), as PCA) & Donost will have a set {a, an Whoway of adding gradditional unique demont from b to the