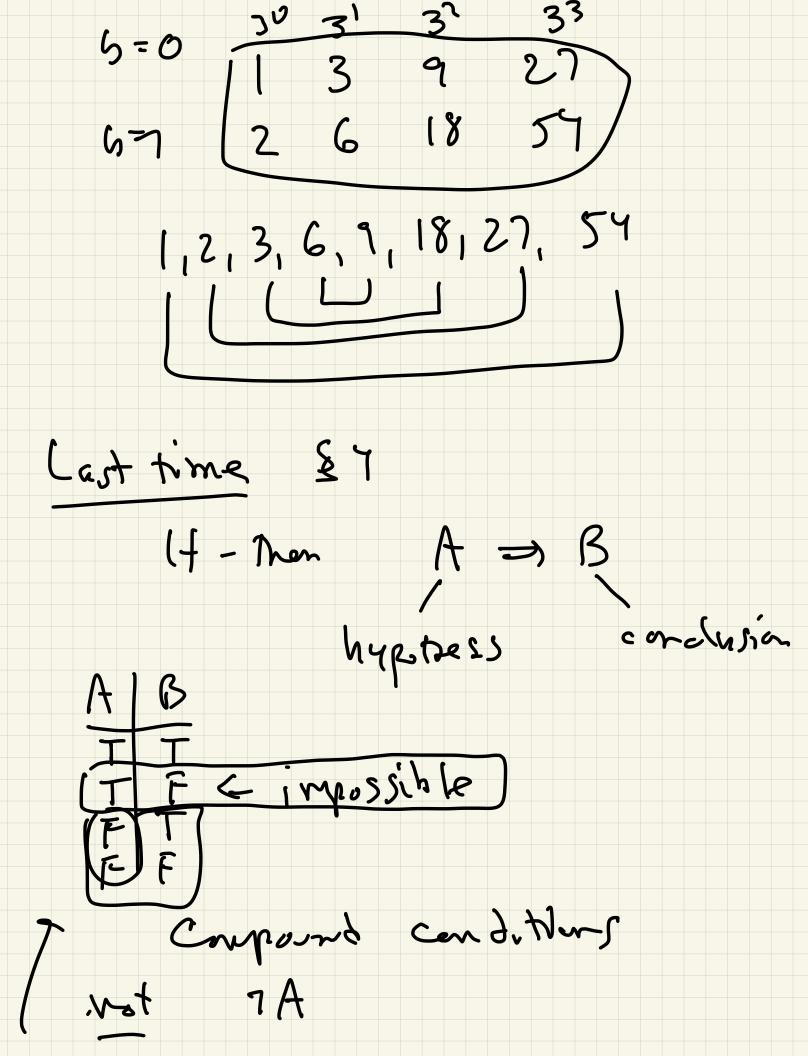
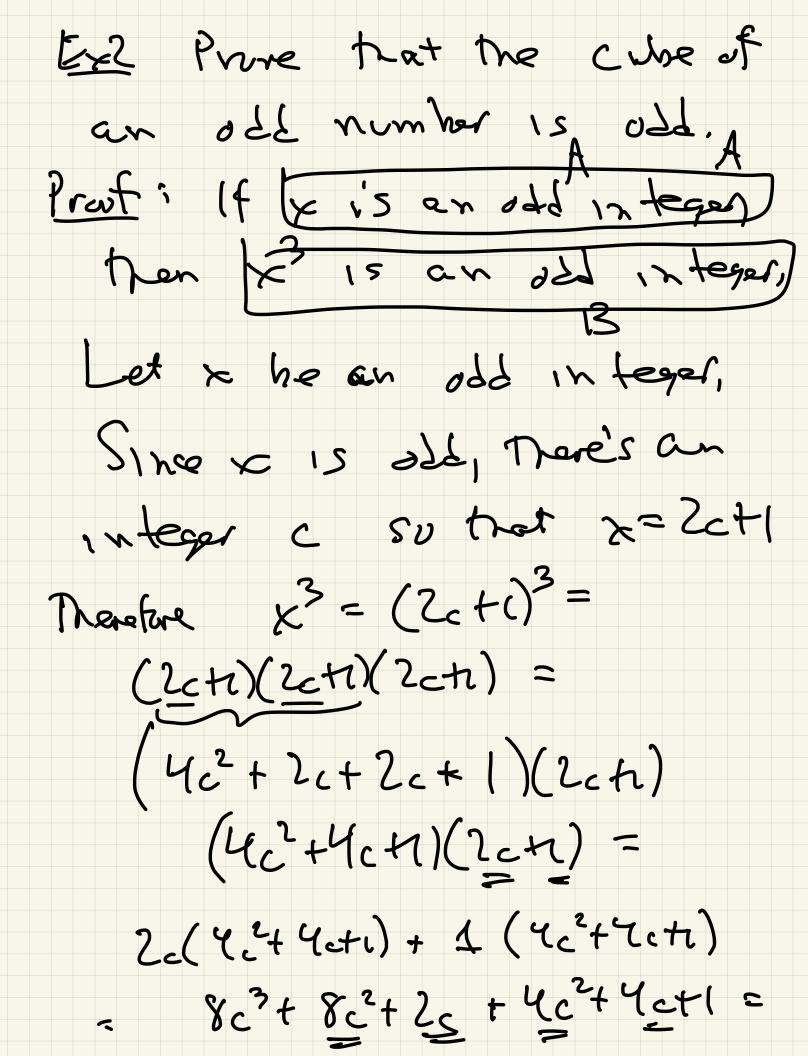
8/26/Discrete Qu.2) -5c = 30(al -5|30 T # c=-6 (b) 6/15 6c=15 No Integer C 60 (0) 6c = 0t (c= 0) A 06 0c=6 vo salation F 54-3².2' 05653 3.2' 05651 2.



and ANB Or AJB vacuous truth if A than B Mer A is Factor, then matter A =1B is the (wo watter) Says) \$5 Profs Argument that shows a (mater) is true always Proposition 1 The sum of two it tegers is even. Provt i

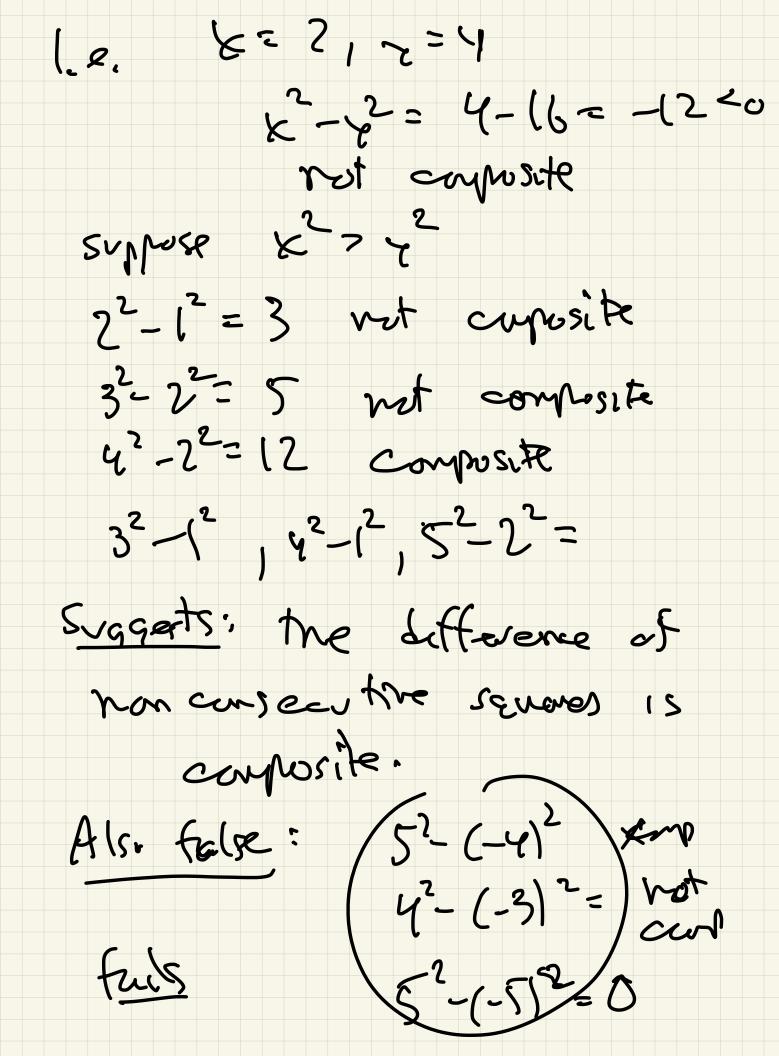
(i) I tand y cure then the an even (i) odd in tegers then an even integers (i) Lot y and y be two odd integers (c) Conce x is odd, There's an integer c so that x=2ctl Since y is odd, there's an Integr d so that y=2dt1 Therefore (2) Xty = (2cti) + (2dti) = 2c+(+2bM = 2c+26+2 $= 2(ct \delta t 1)$ Is divisible by 2 because

Since c, 2 are integers, sc (s) (ct + t)(e) horefore sty is even. I Notes: Louk at famil: Prof QED (a) Converted statement to (FAInon B) (5) State hypothesis A 6) Shet with, unwind hypothesis to see exactly mat A delivers & Creative step: did some e) state enclusion



8c3+12c2+6c+1 $= 2(4c^{3}+6c^{2}+3c)+1$ Since C is an integr, sv 4c3+6c2+3c, sv x3 is obd Ex3 (f an interer 15 duris Ible by a second integer, then so is any integer milde We must show that it A A c, b, c are integers, and bla then blac B - then blac B - then blac A

Let abic be integers sither bla. Since bla, there's an integerd So that bd=a Thanefore ac = (bd) c < b(dc) de 13 an integr (ble die are), so blac by Lobuitran. Et Question: Ave sifterences et squeres composite? (NU) Le, it rig we integer, is 222 composite? Ned x2 > 2 for this to



Conjecture: Lifferences if squenes of ronconsecutive positive integous is composite Profilif X, y are prisitive Integers and xtl < y maconfactor then 222 is composite $y^{2} - \chi^{2} = (y - \chi)(y + \chi)$ $|\zeta_{\alpha} < \gamma^{2} + \gamma^{2}|$