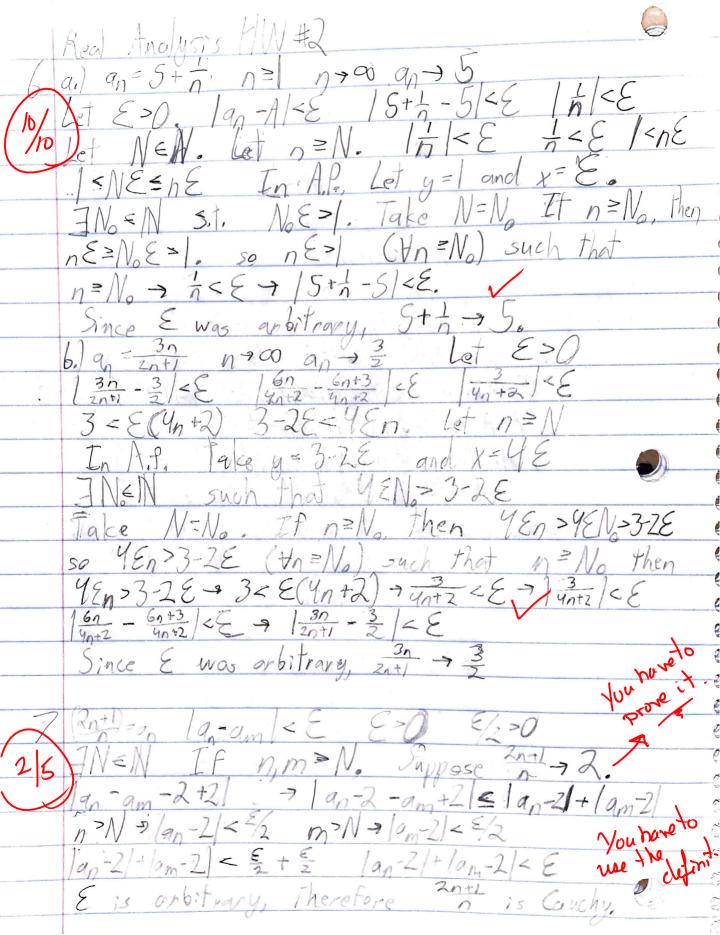
(38/40.) a) i) let night langen let m be lamber. n, 1971. Let M: 5max 2n, m3. If 9, >6m. 100 215 the ond of m, meaning Can, by 3 [am, bin] ON is not true, so on 56m, disjoint in fact... il) La, 16, 1 has a, 5 a, 5 a, 5 a, 5 a, 5 a lower bound. So sup [an] = an But if an = suplan], il isn't sup, so sup [an] = an. And an = bm x so suplant by an is an upper bound by is also an upper bound. Since ansbur, by is The highest upper bound. Since on is the highest a san go. So suplan] = 6m. an = bm the zinote of iii) If c = supland, c = an for all nell with because a 15 a supremum. And x = 6m for all mE/N. This means it is between each [qubo] pair because for every by, an = by so ches To the same of the in every interval. A vague I don't follow. B.) For any N, there is a coopesponding Cap, b, J. If this function starts at n=17 [ai, bp] being the 75 largest interval. Let us exclude of from not. Then let us have on n=2 sto [a, b,] exclude 12. We continue This to an excluding on numbers, andoes not include c which is a real number. The list exclude all ry so it not excluding a means it does not exclude all ry thus making to uncountable because f: No R is not surjective going through oil R. See the solution.

KA HW #Z 307 A Then lan-Al-E 190 A=1A (15) 50 19, A/ = 1/an/-1A1/2 E. 1/an/-1A1/= E X you have to E is orbitrary here, so land 7/Al use |lanl-IAI| = lan-A). 3 If x 7 X y 7 Y 4 = y 0 X = Y 25/50 7 L : CATE 9,50 LSC CAC & Lannot be less than L because it must be equal to by so GAL You supposed 41) an 70 /an/- E an = let an = Et $\frac{|A|}{2} = |a_0| \sqrt{\frac{|A|}{2}} = \sqrt{|a_0|}$ Wrong inequalities. 3.) Foo n=N2, 19-A/< 3 5 4) N = max EN, N3. 190-A1= 3 = Jq + JA > V2+JA Vanto A 7 \ \frac{3A}{2} \ \tan + \tan 2 \ \frac{3A}{3A} \ \tan + \tan 2 \ \frac{3A}{3A} \ \tan + \tan 4 \ \tan Nan-VA < 37. E IS E. V3A and Na, -AI & E and E is arbitrory so

H8 and 45 MISHE



between I and I the N. wexample seems this diverges because it alternates converges because (-1) 1+(-1) 1+1 = () it converges to Seno I wan no co . ∞ E () X oh.5