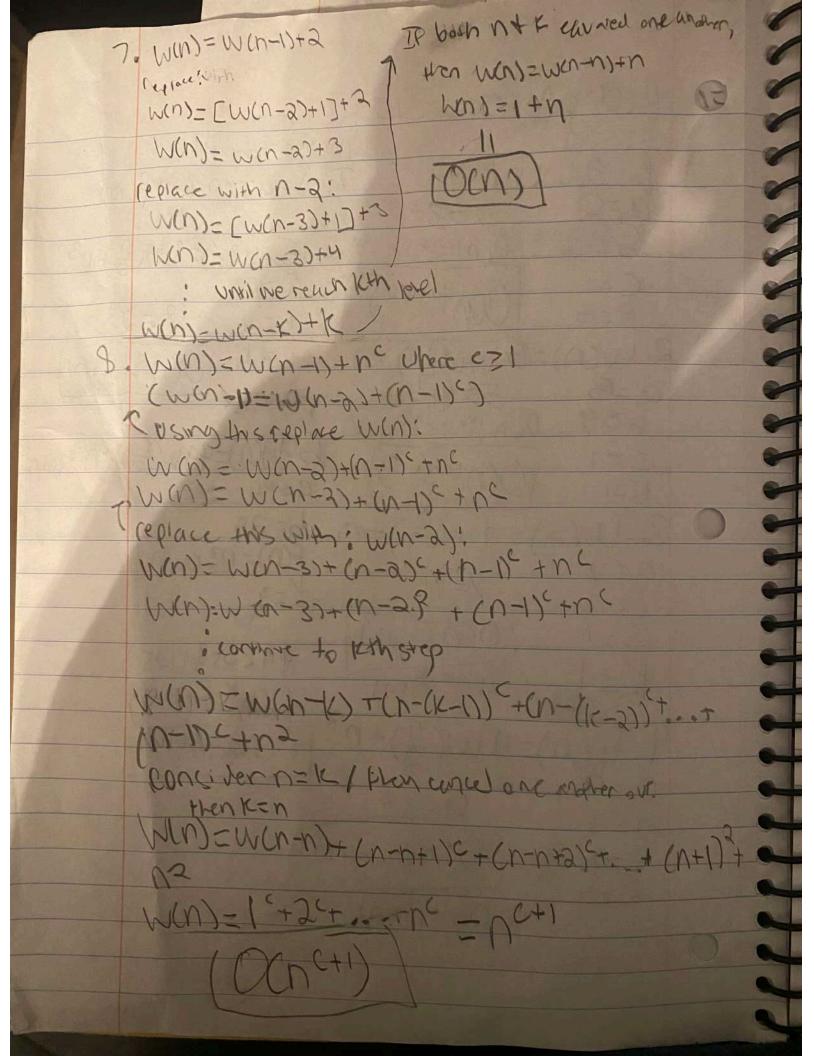
Hearan Gotever master theorem: 1. aw(n/3)+1 T(n)= aT(n/b)+f(n) 6=3 O(10964) 5. W(n)= & W(2)+n3 O(n 1093 ?) 6=2 8=23 2. W(n)=5 W(2)+n C=1 (O(n3/09n) 6=4 Och +096a) 6.W(n)=49W(2)+n=109A (OCN10345) 9=49 3. W(n)=7W(3)+r 6=25 Pan) = 13/10gn 7=71 (Omlogn) 49 (25 3 (125) () (nk (Byn) Och logen) 4. W(n)=9W(2)+n O(n3/2 100/n) O(n2logn) CZA KZZ O(nklogn)



9. WWN=WWN)+1 Lern= Zak thus wen = D(2/2)+1 Using subsiturion: 9(1)=21K), T(K)=T(5)+1 Using Master theorem R=6 TK= D(100)n) put back in generat + cancel with loy Octoglogn)

2. Algorithm a: 5 W(2)+n argorium C: 9 (N/3)+12 argonanm Q. 5 W(n)+n T(n) = a T(n/6) +f(n) 6=2 5721 K-1 O(n10g25) by master & hearen algorithm 69 2(n-1)+1 $(un)^{\frac{1}{2}}\sum_{i=1}^{n}a_{i}=\frac{2n-1}{2-1}=2n-1=O(2n)$ Since Win) < c2n+n W(n) < 2. c2n-1+(n-1)+1 =(O(2")

argorithmico 9(n/3)+n2 Ten)= atenzy+pen) a=6k (9=32) Q= 9 6=3 O(nklogn) C=1 K=2 (O(n2/16gn) I would choose the argorithming be cause its the Pastest.