



TIMA CELENIA
$g(n) = n2^n$ $g(n) = 4^n$
Jese Calledon A Of V - Ming and
Applying unto rule,
Allegard and our )
ly long - lu nan sur nan
lu $f(n) \rightarrow lu$ $n \geq n$ $2^n$ $2^n$ $n \geq n$ $n$
Applying L'Hospital 3) lieu 1
n-20 2nloge
A = 001MA
Hence, jour és ocgin
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using Wuit rule, lu logens [2]
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Applying C'+108po Kuly
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n-200 n(Pn)
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Car (n+1)
Ob.



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2) lieu 4n3+1	
$n \rightarrow \infty$	
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2) Will 473 + 100 n+00 443 4n4	
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b.) Por l'=1   22,31-1 (n1)
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firm of the second state of the second
(2n+1)
(n 1) - (n 2)
(n+)+(n-2)+(n-3)+(n-4)-(3+2+1)
$\frac{n(n_4)}{2}$
O(n)
(20,000)
OB.) Graduation Function 3 fcm 2 m2
n*n2 n2
1+2+3 (n+7+nz n*(n+1)/2
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- small problems, whenever I cloubs, the
Quadratic algo are poactich for sulaticuly small problems, wherever is cloubts, the learning time Excreases josefold
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n-200 100" (log (100) )
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Olo Janlega ghiz log(n)
= 269 (1.2.3.4 m+)n)
$z \left( \log \left( n^{n/2} \right) \right)$
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-2 n log n
2 / 2
$20 n \log n - n \log 2$
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2) n logn - Pog2) 20/n logn).
Mena, por Edgin
Hence, $f(n) \in \partial g(n)$



Q(1) (i) 2n++4n+)
Joe 0 e, g(n) < j(n) < (2, g(n))
$2^{n+} + 2^{2n+2}$
=> 2n + 4.022n
<b>~</b> .
$2^{2n}\left(4+1\right)$
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tigest order from 2 > 0(47)
$(n^2+6)^8$
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2 n/6
$\geq O(n^{16})$
9 U(n)
12) Tp 2 n2
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TB > n1/
Breaking Pt.
$n^2 = n+2$
n2-n-1 20
$n^2 - 2n + n^{-2} = 0$
n(n-2)+1(n-2)=0
722