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CS

Question 1

o For every K ≥ 1, show that n^kis not

n^k != O(n^(k−1))

n^k <= c. n^(k−1) / n^k

n<= c

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C

That

n^k != O(n^(k−1))

Question 2

o Show that (½)n ^ 2 + 3n = O(n ^ 3)

Permission (½)n ^ 2 + 3n<=c.n ^ 3 divide by /n3

½/n+3/n ^2<=c

For ever n.>=1

C>=4

Permission (½)n ^ 2 + 3n<=c.n ^ 3

Question 3

o Show that (½) n ^ 2 + 3n = Ω(n)

Permission (½) n ^ 2 + 3n>=c.n divide by /n

(½) n + 3>=c

For evere n.>=0 and c=2

Permission (½) n ^ 2 + 3n = Ω(n)

Question 4

Soulation that

Number 2 and 3 and 4

Number 1 is false

Backse limet for number one is the infinute (∞)

Also O(n)=C

zero=<C< ∞