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1) 7n-2=O(n)

f(n) ≤ c. g(n)

7n-2≤ g(n)
7n-2 ≤ c (n)
Let suppose c=8
7n-2 ≤ 8.n
7n-2/n ≤ 8
Here we take n=2
7(2)-2/2 ≤ 8
14-2/2 ≤ 8
6 ≤ 8 hence, the equation is proved, firstly we have to choose the value of c and on that value suppose the n and then proof whether the equation is verified on that c value or not.

2) 7n-2=θ(n)

c1. g(n) ≤ f(n) ≤ c2. g(n)→A

c1. g(n) ≤ 7n-2 ≤ c2.g(n)

first, we suppose c=7, c=8and put in eq A

7(n) ≤ 7n-2 ≤ 8.g(n)

Then, n=1

7(1) ≤ 7(1)-2 ≤ 8(1)

7 ≤ 7-2 ≤ 8

7≤ 5 ≤ 8

n=2,

7(2) ≤ 7(2)-2 ≤ 8(2)

14 ≤ 14-2 ≤ 16

14 ≤ 12 ≤ 16

firstly, we have to choose the value of c1 and c2 and on that value suppose the n value and then proof whether the equation is verified on that c1 and c2 value or not Since, the equation is not proof for n=1 and n=2, c1=7, c2=8 but for c1=2 and c2=6 the equation is proved.

3) $7n-2= \theta(n^2)$

$c1. g(n) \leq f(n) \leq c2. g(n) \rightarrow B$

$c1. g(n^2) \leq 7n-2 \leq c2.g(n^2)$

first, we suppose c1=1, c2=5 and put in eq B

$1(n^2) \leq 7n-2 \leq 5.g(n^2)$

Then, n=2 in eq B

$1(2^2) \leq 7(2)-2 \leq 5.g(2^2)$

$4 \leq 14-2 \leq 20$

$4 \leq 12 \leq 20$

n=1, in eq B

$1(1^2) \leq 7(1)-2 \leq 5(1^2)$

$1 \leq 5 \leq 5$ hence proved!

firstly, we have to choose the value of c1 and c2 and on that value suppose the n value and then proof whether the equation is verified on that c1 and c2 value or not Since, the equation is proof for n=1 and n=2, c1=1, c2=5.

4) $3n^3+20n^2+5=O(n^6)$

$f(n) \leq c. g(n)$

$3n^3+20n^2+5 \leq c(n^6)$

Let suppose c=28

$3n^3+20n^2+5 \leq 28(n^6)$
$3n^3+20n^2+5 / n^6 \leq 28$
Here we take n=1
$3(1^3) +20(1^2) +5/ (1) ^6 \leq 28$
$3+20+5 \leq 28$
$28 \leq 28$ hence, proved!

hence, the equation is proved, firstly we have to choose the value of c and on that value suppose the n and then proof whether the equation is verified on that c value or not.