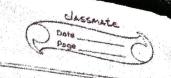


(076) NO ((070) NO) 75 Mrs. ((a+b) ∧(b+ci) → (a+c) ANS & ((wave) + (wove)) -> (orave) " ((nakp) v (nph()) (nakc) GOLDINGO DE TO (BLUE) V(DVC)) V(LAVE) ((CHONNE) V (HONO) V (HONE) 6 5 ATE-(CTO)ALTO (CONTINUES) 0 b C 000 5->6 240 TTT Har 700 + 1 (6 + 3) (6 + C) + (0 + C

converse invertee up - na. contrapositive uq -> ~ p. CONVERSE !- 97P if Narendro Modi is prime minister then India is the ANS! inverse - up > va, # TTFFF T FFT F r F . T TT F FF contigency. 7 (i) PN(QVP) = (PAQ) V (PAP) This is DNF form. (ANG) NCPO (PVG) N(PVr) (11) $= (p \times p) \vee (p \times r) \vee (q \times p) \vee (q \times r)$ PH () .. This is DNF form. (PAQ,)V(NPAQ,AY) (BAND) V (BAD) V (BAD) V (BAD) V (BAD) V (BAD) This is CNF form.

15+55+35+ 10. + U_5 = V (U+1) (05U+1) 1=n (i) LH5=1 RHS = (2)(3) =1 (ii) n=K $15 + 55 + 35 + \dots + K_5 = \frac{5}{K} (K+1) (5K+1)$ (111) n=K+1 : 12+32+32+ ... + Kz + (K+1) = (K+1)(K+3) (3K+3) 3) K+3) = (K+1) (K(2K+1) + (K+1)) = (K+1) (2K2+K+ 6K+6) = (3K+1) (2K2+7K+6) LHS . = (K+1) (K+2) (2K+3) = \$H5.

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, the contract of the contract	(0) $n=1$	
<u></u>	LH6=1	
-	RH6= (1)·(3) =)	
	$r^2 + 3^2 + 5^2 + \dots + (2k-1)^2 = k(2k+1)(2k+1)$	
	3	
-	(iii) $N = K + 1$	
	(iii) $U = K + 1$ U = K + 1 U = K + 1	and the same of th
	: $1^2 + 3^2 + 6^2 + \dots + (2k+1)^2 + (2k+1)^2 = (k+1)(2k+1)(1k+1)$	
2×+2,2	The state of the s	
UFT	THE = K(5K-1)(5K+1) + (5K+1)	
X	F	
	$= (2K+1) \left[2K^2 - (K+(2K+1)) \right]$	
	A SE THE SECOND	-
	$= (2K+1) \left[2K^2 - K + 6K + 3 \right]$	
979	2 2 7 1 2 7	
	$= (5k+1) \left(\frac{5k_5+2k+3}{2} \right)$	
	. 8	
	z. (2K+1) (K+1) (2K+3)	
	3	
	= RHS.	
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 $5^{n} - 4n - 1$ is divisible by 18 $5^{n} - 4n - 1$ is divisible by 18 $5^{n} - 4n - 1$ is divisible by 16.

N=K

6K-4K-1 is divisible by 16.

D=K+1 - 4(K+1) - 1

ans

 $= 86^{K.5} - 4K - 5$ $= 86^{K.5} - 4K \cdot 5 - 5 \cdot 1 + 16K \cdot$

= 5 (5K-4K-1)+16K 01 1000

Here first part is divisible by is using inductive hypothesis and second part is already multiple by 16. The result is true for n=k+1

It is divisible by 16.

- Hence true for all no