Gabryelle Minna	
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4 P(n) be the statement that	10 10 10 10 10 10 10 10 10 10 10 10 10 1
13+25+ + n3 = (n(n+1)/2)	2 -> for the posave integer n
a) par ?	
> P(1) = (1)3 = (1(1+1)	)2
2	Tagella sukud
Carrier waters to 11 is nother toward a che	
b) proved that pu) is true!	as year that of boost one has
North State	े . (अंगे) 1 जे में का मा का मिल्लों . (
15 - (1C(H))2	orthing or 21 17 somethy and " 12 or forther
7 0.1	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	HOVED!
1=1 -> 1	
	1-1(141) = (1.) : (1)
c) The Inductive hypothesis:	( h to n) 12
	= ( K (K+1) )2
	TALLE TELEVISION
1-1014 (144) - (144) - (144)	10.04 + 10.0
a) what we need to prove in the	e viduality they is planty
1= 10142 1 (144	
e) inductive step:	2.10 ((4.11) ((441) +11) 2
9 inductive step:  1	241) ((1441) ( (1441) 43)
	4 +6k3 + 13k + 12k + 4
- 1	461112
I dentifying:	k2+k12
( k (k+1) 2 + (k+1) 3 - (-	2 + (1/1)
1.4	+2k3+ k2 + 9 (k+1)3
, 1/1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	, .4

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-	= k4+2k+h2	+4k3+12k2+pk+4
	PROVED! 1 + 4 + 6 k 3 + 131	k2 + 12 k + 4
	A man was all a finishing the first of the f	1
	7 1	19 6
	f) Explain why these steps how that this famulo is the when	never n is a
	Josephue Wieger.	
	up because to hot whether the formula is cornect when n is a	positive integer,
	first we need to fest n=1 in p(11) 4 it is true, then	we change n to k
	and we need to test p(k+1). If All of that proved fine t	/
	is the whenever n is a positive integer.	2
6	Nove that 1.1! + 2.2! + + n.n! = (n+1)! -1 whenever n 1	a postive where.
	4 n:1	
	P(U): 1.1! = (1+1)! -1	
	1 = 2!-1 * * * * * * * * * * * * * * * * * * *	W. 6
	1 = 1 (PROUED)	
	p(k): 1. 11 + 2.21 + + k. k! = (k+1)! -1	
	p(k+1): 1.1! +2.2! + + k. k! + ( k+1) . ( k+1) = ( ( k+1) +1)!	-1
	(K+1)! - 1 + (K+1). (K+1)! = 1. (K+1)! + (K+1). (K+1)! -1	(N) (A)
		PREVED
	= (k+2) (k+1)!-1	
	= (K+L) (K+1) (K) -1	+9
	; (k+2)!-1 = (k+1) +1) 1-1)	
	164 4614 481 + 186 + 126 + 4	
	4	
	campaita de	
	944) + 14+48) - Eman + 10+0	
	(144) 3 4 4 11 4 12 4 14	
7		

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	87.2.140.1~.303.3 - 1
6	First an inverse of a modulo m for each of these pairs of relatively prime integers
	curs the method followed in Ex. 2.
	a) a=2, m=17
	ab = Mid m
	(+ = 8.2 +1
	2 = 2.1 PE- D PM Tem 1 37 PM TEM
	9cd (arm) = 1 = 10 hom = 2 = 18 hom = 34 = 2 = 16 hom = 34
	9cd (9rm) = (7-8.2
	$9(d(q_m) = 1.17 - 8.2) = 9$
	) the inverse is right next a, -8
	.) -8 mod 17 = 9,50 9 also inverse a mod m.
	84
	b) a = 84, m = 89
	ab = mod m
	89 = 2.39-21
	34 = 1.21 + 13 $\leftrightarrow$ 13 = 34 - 1.21
	$21 = 1.13 + 8 \iff 8 = 21 - 1.13$ $13 = 1.8 + 5 \iff 5 = 13 - 1.8$
	8 2 1.5+3 $\leftrightarrow$ 3 = 0 - 1.5 5 = 1.3+2 $\leftrightarrow$ 2 = 5 - 1.3
	3 = 1.2 +1 => 1 = 3-1.2
	2 = 2.1
	g cd (a,m) = 1
	1 = 3 - 1(5-1.3)
	1 = 3 - 1(3 - 1.5)
	1 = 2.3 = 1.7
	1 = 2.8 - 3.5
	1 = 2.8 - 3 (13-18)
	I I I I I I I I I I I I I I I I I I I

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1. 50 000
1 = 5.8 - 3.13
1 = 5.(21-1.13)-5.[3
1 = 5.21 -8.13
1 - 5.21 - 8. (34 - 1.21)
1 - 13 . 21 - 8 . 34
1 = [3. (09 - 2.34) - 8.34
1 = [3.89 - 34.34 > 0
I the inverse is night mexica, -39
1) -34 mod 89 = -34 +89 mod 89 = 55 mod 89 = 55, so 55 also invoire
a mod A
d - B mud (f - 19 co o din relate a nod on
on first B. States and Co. T. How C.
68 - 14 - 18 - 18 - 18
Na form : do
6512-652 2 42 12-44-3 43
12-1- 65 35 1 6 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
(1.1-12-3 to 3+0.) + h
8.1-21-2 - 32-6.3 - 31
73-00 8 00 8+73 0 6
11-2-5 (+) 2+1d = 3
Sile 1 (0) 17 20 7 1
1.2 7 3
to total to
23-3-1
(2.1-23) - 2 - 1
2.1-22 = 1
24-(21-8).4.
23-83 - 1
(8)-517 2-82 -1