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		,	te pul	Q.
An integer Positive P	16816 1	Ore cy,	0 0	
By Which	of the fallo	wing a	te Prime	5
@ 4 -> 6 (b) 3 =	Composite Prime	214	0 1	
(a) 23 - (b) 21 -	= Composi	te 3/27	8 8	
Theorems			X 11 X	
TP n Got	ten rearc	ishion!	nique	
P1, P2	2 Servicino	ch that	1/2/006	40
) Pm		1.	
P ₁ ,P ₂	, Pm Care	Prime Lac	Lailatich	orn

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-	the state of the s
-3	BX Find the Prime factorization of 1=100?
-3	
1	100,50 <u>80</u> 225 <u>25</u> 25 <u>5061</u>
0	
13	2 x 2 x 5 x 5 2/00
-	ON OUR PRIME TERRO PAIST SOME
-	Figure 9 such 15th
-	theorems- 0/9
-3	1/0 00
-3	If het nest
-3	$\frac{1}{2}$
-3	1) If n=ab then the Prime Poctorization
-2	of n is the result of merging the Prime factorization of a,b
_3	- Prime factorization of a,b
9	is the prime factorization of n then
	13 the prime factorization of n then
9	P=Pi Por Some 1 < 15 Pm - 8/08
	theorem 8-
9	theorem 8-
9	IPn is a Composite then n Mas a prime
9	factor SAN
	Proof: - In is queriles nis ple, vide que prois
9	Prople - To A Cultilos a hele ulas cua mão
2	in to be the maabtoin for this
2	assume by antradiction. Len ay In , by In
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Socien 2a Strive 1000	BX 410 9-60 PMC
1/4 G 30	
a is Prime	a is Composite
5 x 5 = \000	k C & C
ala, a is prime	There exist some
	Prime P Such that
	P/a -2000 709~/
	os aln
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no tes prime factorization	- 0° PIN
The state of the s	
/ENO	27 27 21 0 Jo
- C. No- d.o Do mit	os ivotony emily
Determine whether	10-2 7 15 Octood 12 4.
not a go noitosphotos	M2307 18 Prime or not
30/8- 09>1>10m	
In=137 = 17.~	-3 MO70 5AT
emir Prime & Throw oth	28 ma a 21 n 91
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3	Theorems to sivotool oming to Esonia upino
3	
0	there are infinitely many Primes
0	Proof8- +1 707 anit 55/15/2017 smily
-	1210018
7	BJ Contradiction assume there are
•	sofinite number of primes on 1220
-	n 104 nottosivoto09
-3	assume Primes: Pr, Pr Pm
	let n = P1B12 Pm +10,108
	10+ N=P1B1 PM +10 0
	n 8 hours Par Day is the
-5	1) Should Be Composite Bec. Pm is the largest Prime & Atl isalso Prime
19	Some of a man Doll Comit will a
-9	there exist Pifer Some I Such that Piln PilPiPi-Pm Primes 11 5#
	1 Pi P2 Pm Prime 21/2/5#
9	OF PILOPER BOTH-PM 100 MONDAR
<u></u>	
9	
9	Gn tradiction GA 3/19 8
9	5'm - C. 15 91 9 moz 10 - 19
<u>.</u>	Mext 11 der 218 des di Prime 121 n 21
2	Mest 11 der 218 Go on Prime 251 N 21
2	Noitamollo Busku 30
2	Do there exist infinite number of Primes
	733N 600

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No:
Uniqueness of Prime factorization 200.90/
TP NEET then there exist a unique
prime tactorication for it.
P60P8-
- DIO DIONI ON WOOD MONTH ON TO
adding the exist topodisting Prima
FOCIOTION FOR N
Pt> Prime forctorizations & P. Ps, Ph & q. 1951 -1, q. 2 - 1 +0)
20 N 3 PSP 222 - 21 Pro 17 9 1 Pro 18 9 14 1 15 18 9 14
23117 06/26 1 /40 b Smith + 20/2/01
Dividing bot Common Primes
- 72 Pas Pring - Phi 329, 93, 97, 99m
9 12 cools col 1 es 1 cools Bo Greo
00 R/11H3
80 P/1 RHS
p' = 9rj for Some JE 21, 2,m'3
Contradiction de 819 a 811 1000
0° Wrong assumption
as Prime factorization is onique for
and NEST

Greatest Common divisors = (GCD) Defination & > PASitive / GCd (a,b) is the largest integer of that divides both a,b (not both of a,b=0) 300(006) 10 , god(0,6) 16 8 if cla1 C16 - 3 C 3 d 20019 the god (ab) =1 teen and area relativily prime ex 8 25, g god between and the interpressions This the integer of old of 2/6 A 2-0/6-401 (10) 9cd (24,16)=8 d d 0 16 8 9cd (24,16)=8 d 0 16 8 9cd (24,16)=8 d d 0 16 acd (239,0) = 239 d/6 00 - 2 Merro of

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Euclid's lemmas-
Deringtions of John Airold
9001(a,b) is the legest in teapy of
1020 900(a,b)=900 (01-b/b)606
(> 2 = d/)
Ptoof 8=> 2 = d/2 10 2/
(D) 10x10d dgo nood 16 (d,p) 6019 9+
A CARRO SWING FILLIFORM
or of Ca-b sming Elevitator
300 between and we often + 300 18
02 9 101-p 009/p 00/2 3127
@) let d/a-b 1 216
00 Al a-b+b 8=10/10/608
DMINI BRATESON DA VOICE - 1- (F1,0) 600
000 216 080 60000
68 910 V 91P
theorem :-
let 0129 b + t where asb, 9, 167
Then gcd (a,b) = gcd(b,r) In other words:
gcd (a, b) = gcd (b, a mad b)

Date :__ No: Proof8-O let dla 1 dlb 1027 OF 05 05 \$9/ & dla-9b 08 dla 1 dlb - 2 mollo 1 d/r d 60 & and Common divider of a, 5 is als 5, r 6000 600 1100T 9, 16 1 2/9 21610/16 - 1/6 1/9/16 of blandlb => dlbnald 30 08 gcd(a,b) = gcd(b)r1 08 9cd (a,b) = 9cd (b, a mod b)

Date:No:	
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lemmas	
let a7/b 70 then a mod b < 9	1)
0/6 80	
Drooks 46-019	-
b<9 b=a b749	
- 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
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amod b < 9 1 so a mod b=0/6 1 M/2 029 b	
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In all Cass a mod b < 9	
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4tdP) 6 0 0/6 8	
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0/6 A 10/6 = 1/6 Ad/6	
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