	D. La. C. C. N. N. C. A. Z. C. C. A. C. Z. C. A. C. Z.
	Purle: 5= \$ A1 A & A]. SES? \$\$57
	AES 277 AGA
	SES 37 SES.
	Lucell's paradox, 1901.
	Zerinelo, 1908: only allow {x613 Pco, }
	in come set
	Ex 3.4.5: An (B)(C) = (ANB)(C)
	Guen Goal
	Uz (ZEAN(BLC) <> XE (ANB) LC)
	1 St Coven 1 St Goal:
	y & ANUBIC) y ELANIS) \ C
	XGANXEUSIC) XGANXEBNXEC.
	X GA A (XER A X & C)
	76AAXEBA XCL
	(->) Proof:
	let x be arbitrary. We have so show that ANLBIC) :77
	XC(AMB) 1.C. Both of them are equivalent to XCANX6BN XKC
	by associativity. So they are equivalent to each other. So
	ANUSICO = (ANB)IC · 1
\$3.5.	
<i>y</i> . –	
Proofs invol	home
Proofs invol	hing
Proofs invol	
Proofs invol	Strategy: To use the given of PVQ, break the proof into
Proofs invol	Strategy: To use the given of PVQ, break the proof into two parts: 1) Case 1: suppose P is true
Proofs invol	Strategy: To use the given of PVQ, break the proof into two parts: 1) Case 1: suppose P is true 2) Case 2: Q
Proofs invol	Stronegy: To use the given of PVQ, break the proof into two parts: 1) Case 1: suppose P is true 2) Case 2: Q Form:
Proofs invol	Strategy: To use the given of PVQ, break the proof into two parts: 1) Case 1: suppose P is true 2) Case 2: Q Form: Case 1: Assume P. [Proof]
Proofs invol	Strategy: To use the given of PVQ, break the proof into two parts: 1) Case 1: suppose P is true 2) Case 2: Case 1: Assume P. [Proof] Case 2: Assume Q.
Proofs invol	Strategy: To use the given of PVQ, break the proof into two parts: 1) Case 1: suppose P is true 2) Case 2: Q Form: Case 1: Assume P. Lase 2: Assume Q. Since PVQ, this cases are exhaustive, so we have
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Proofs invol	Stronegy: To use the given of PVQ, break the proof mes two parts: 1) Case 1: suppose P is true 2) Case 2: Q Form: Case 1: Assume P. [Proof] Case 2: Assume Q Since PVQ, this cases are exhaustive, so we have proof our goals. En 2: (AUB) 1 (C AUCBIL)

> x4c > xeavxe3.
Case 1: X GA X GBIC.
D 7 /2 1 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Proof: let xe(AUB) \ C. Then xe AUB and x & c.
Case 1: x & A. Then clearly x & AUG(C).
Case 2: xGB. Since x&C, then xGB1C. So xEAUBIC).
Since ACAUB. These cover all cases, so XCAUB) \C.
Since x is arbitrary, (AUB) (C = AUCB)() 1.
Strategy: To prove a good of form PVQ. Break into cases
and prove Por a in each cases
Ex 3.5.3. For any integer x. the remainder when x2/4 is 0
or I
Given Goal
Gen Goal 262 x2/64=011x2/64=1
\times \times^2 \times^2 \times^2 \times^4
0 0 0
2 4 0
3 9 1
4 16 0
5 25
G 36 0
7 49 1
8 64 0 9 81 1
10 100 0
Cases x is even or odd.
Proo7: Suppose x62,
Case 1: x is even. then there exist kGZ that 2k=x.
so x2=4k2. Since RGZ, so the remainder of
4k2/4 25 0
Case 2: 7 is odd then there exist ktz that x22k+1.
$50 \times ^2 = 4k^2 + 4k + 1 = 4(k^2 + k) + 1$. Since kez, the
remainder of (4(k2k)+1)/4 is 1.
These cases are exhaustive, so in either cases we have
nost our soal a.

r , J
Strategy: To prove a good of the form PVR add 7P
to the second the second to
Strategy: To prove a goal of the form PVQ, add 7P to fiven and try to proof Q. Case: P
Case: 7P-) Q->PVQ
Ex? YNGR, if x2x then x50 or x21.
Proof: les xER assume x22x. It x50. Hen we're
done So assume x so. Dividing both side by a
giving x > 1. So either x < 0 or x > 1 D.