	DIS - Tutorial -2	MAEER'S MIT	
1>	Solution:		
-	[(PVQ)NN(NPNINQ UNT))]U(NPNNQ)V(NPNNT)		
	= [(Pva) n (Pv(2nx))] v ~ (PvcV) v ~ (Pvo)		
	= [((PUD)NP) V((PVD)N(DND))] V (NPN(MD)		
	= [ev (1eva) va) v (bra va)] n (va (br (av	(a) (Absorption law)	
	= [(PV@)n((PV@)nx)]u(n(PV(@nx))		
	= ((PVQ)NY) U (~ (PV(Q,NY))	[Distributive low]	
	= T	(complement low)	
		[Complement 1800]	
1		6.	
٥>	Solution:		
	~ 44 (3x 1 (xx) 1 x E) p b ~		
	= = = = = = = = = = = = = = = = = = =		
	((E,K) D x F n) N V (E,X) 9 x E) N) VE =	[De morgan's law]	
	= 34(Ax Vb(xx)) N Ax B(x))	[Double negation]	
		The state of the s	



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0.3>	Solution	
→ (1)	~ (r -> ~)	
	= ~ (~Pray)	
	= PANY [Demorganis low]	
(ii)	or (PV (opna))	
	= NPN(PNNQ) [Demorgonis law]	
	= (NPAP) V (NPANQ) [Distributive law]	
	= F v (npnng) [complement law]	
	= rpnnq [Identity law]	
山〉	Solutions	
	P(x,y) is the formula x+y=4	
	Q(x,y) is the formula "x < y"	
67	for x=1, y=3	
	P(1,3) = 1+3 = 4	
	: P(x,y) = T = (P(x) P bon T = (P,x) 9:	
	$T = T\Lambda T = (E(X)D) \Lambda (E(X))$	
	$T = TVA = (E_1 X) B \cap (E_1 X) B \sim$	
	P(x12) → NO(x12) = T → F = F	
	NP(X,y) &> B(X,y) = F <>T = F	
		Pa



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(P)	for $y=1$, $y=2$
	P(x,y) = 1+2=3 = F
	9(x14) = T
	$P(x,y) \wedge Q(x,y) = F \wedge T = F$
	$P(x_1y_1) \rightarrow ng(x_1y_1) = F \rightarrow F = T$
•	: NP(x)y) = + + T = T
(0)	For x=3, y=1
	P(x,y) = 3+1=4=T , $Q(x,y) = F$
	$P(x,y) \wedge Q(x,y) = T \wedge F = F$
	~ 88(x,y) UQ(x,y) = FVF = F
	$T = T \leftarrow T = (\nu, x) \rho n \leftarrow (\nu, x) q$
	$P(x,y) \leftrightarrow g(x,y) = F \leftrightarrow F = T$
(9)	For x=2, y=1
	P(x,y) = 2+1 = 3 = F, $Q(x,y) = F$
	$P(x,y) \wedge Q(x,y) = F \wedge F = F$
	:. ~ P(x,y) V Q(x,y) = TVF = T
	$T = T \leftarrow A = (E(x)) \otimes V \leftarrow (E(x)) A$
	:. ub(x) 3 (x) = L +> E = E
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