No.

Date:

5 b $(\forall x)(\forall y)\ P(x,y)$

$P(a,a) \wedge P(a,b) \wedge P(b,a) \wedge P(b,b)$

T F F T

F ∧ F

F

Formula tersebut salah

c $(\forall x)(\forall y)\ [P(x,y) \rightarrow P(y,x)]$

$\forall x = a$, $\forall y = a$

$P(a,a) \rightarrow P(a,a)$

$\forall x = a$, $\forall y = b$

$P(a,b) \rightarrow P(b,a)$

$\forall x = b$, $\forall y = a$

$P(b,a) \rightarrow P(a,b)$

$\forall x = b$, $\forall y = b$

$P(b,b) \rightarrow P(b,b)$

$(P(a,a) \rightarrow P(a,a)) \wedge (P(a,b) \rightarrow P(b,a)) \wedge (P(b,a) \rightarrow P(a,b)) \wedge (P(b,b) \rightarrow P(b,b))$

T T F F F F T T

T ∧ T ∧ T ∧ T

T ∧ T

T

Formula tersebut benar

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(3) $(\forall x)(\forall y)(P(x,y) \rightarrow P(F(x), f(y)))$

$\forall x = 1$ (T), $\forall y = 1$ (F)

$P(1,1) \rightarrow P(2,2) = F$

$\forall x = 1$, $\forall y = 2$

$P(1,2) \rightarrow P(2,1) = F$

(T) (F)

$\forall x = 2$ (F), $\forall y = 1$ (T)

$P(2,1) \rightarrow P(1,2) = T$

$\forall x = 2$ (F), $\forall y = 2$ (T)

$P(2,2) \rightarrow P(1,1) = T$

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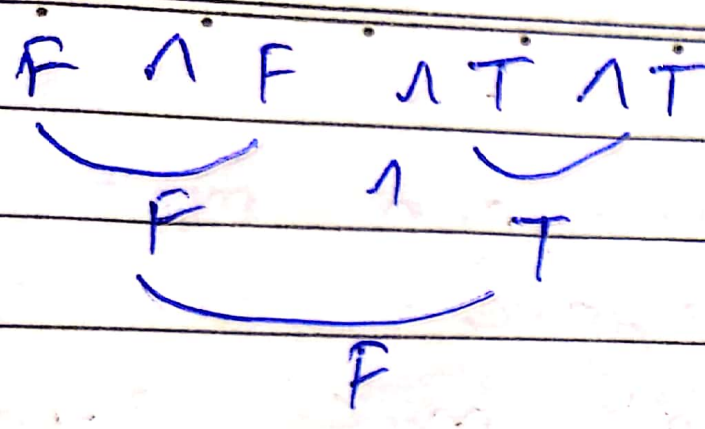
No.

Date:



maka Formula tersebut Salah

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9

(1) $(\forall x)\,(P(x) \rightarrow (\exists y)\,Q(x,y))$

$(\forall x)\,(\exists y)(\sim P(x) \vee Q(x,y))$

(2) $(\exists x)\,(\sim((\exists y)\,P(x,y)) \rightarrow ((\exists z)\,Q(z) \rightarrow R(x)))$

$(\exists x)\,(\sim(\exists y)\,P(x,y) \rightarrow (\sim(\exists z)\,Q(z) \vee R(x))$

$(\exists x)\,(\sim(\exists y)\,P(x,y) \rightarrow ((\forall z) \sim Q(z) \vee R(x))$

$(\exists x)\,\sim(\sim(\exists y)\,P(x,y) \vee ((\forall z) \sim Q(z) \vee R(x))$

$(\exists x)\,(\exists y)(\forall z)(P(x,y) \vee (\sim Q(z) \vee R(x))$

(3) $(\forall x)\,(\forall y)\,((\exists z)\,P(x,y,z) \vee ((\exists u)\,Q(x,u) \rightarrow (\exists v)\,Q(y,v))$

$(\forall x)(\forall y)((\exists z)\,P(x,y,z) \vee \sim(\exists u) \sim Q(x,u) \vee (\exists v)\,Q(y,v))$

$(\forall x)(\forall y)(\exists z)(\forall u)(\exists v)(P(x,y,z) \vee (\sim Q(x,u) \vee Q(y,v)))$

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