

t200_xcmlx_1
(TMbn8BFMid3iMybFKVytKhPvB8wnVwQDEB2)

October 27, 2020

Let $v1_xcmlx_0 : \iota \Rightarrow o$ be given. Let $k7_xcmlx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k4_xcmlx_0 : \iota \Rightarrow \iota$ be given. Let $k2_xcmlx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xcmlx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_xcmlx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_xcmlx_0 X0) \Rightarrow (\forall X1.(v1_xcmlx_0 X1) \Rightarrow (\forall X2. \\ & (v1_xcmlx_0 X2) \Rightarrow ((X0 \neq k6_numbers) \Rightarrow (k3_xcmlx_0 X1 X2 = k7_xcmlx_0 \\ & (k3_xcmlx_0 X1 X0) (k7_xcmlx_0 X0 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xcmlx_0 X0) \Rightarrow (\forall X1.(v1_xcmlx_0 X1) \Rightarrow (\forall X2. \\ & (v1_xcmlx_0 X2) \Rightarrow ((X0 \neq k6_numbers) \Rightarrow (k3_xcmlx_0 X1 X2 = k3_xcmlx_0 \\ & (k3_xcmlx_0 X1 X0) (k7_xcmlx_0 X2 X0)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xcmlx_0 X0) \Rightarrow (\forall X1.(v1_xcmlx_0 X1) \Rightarrow (\forall X2. \\ & (v1_xcmlx_0 X2) \Rightarrow (k3_xcmlx_0 X0 (k6_xcmlx_0 X1 X2) = k6_xcmlx_0 \\ & (k3_xcmlx_0 X0 X1) (k3_xcmlx_0 X0 X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xcmlx_0 X0) \Rightarrow ((X0 \neq k6_numbers) \Rightarrow (k7_xcmlx_0 \\ & X0 (k4_xcmlx_0 X0) = k4_xcmlx_0 np_1)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xcmlx_0 X0) \Rightarrow ((X0 \neq k6_numbers) \Rightarrow (k7_xcmlx_0 \\ & (k4_xcmlx_0 X0) X0 = k4_xcmlx_0 np_1)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xcmlx_0 X0) \Rightarrow (\forall X1.(v1_xcmlx_0 X1) \Rightarrow (k2_xcmlx_0 \\ & X0 X1 = k6_xcmlx_0 X0 (k4_xcmlx_0 X1))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_xcmplx_0 X0)\wedge((v1_xcmplx_0 X1)\wedge(v1_xcmplx_0 X2)))\Rightarrow(k3_xcmplx_0 X0 (k7_xcmplx_0 X1 X2) = k7_xcmplx_0 (k3_xcmplx_0 X0 X1) X2) \quad (7)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0)\Rightarrow(k3_xcmplx_0 X0 (k4_xcmplx_0 np_1) = k4_xcmplx_0 X0) \quad (8)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0)\Rightarrow(\forall X1.(v1_xcmplx_0 X1)\Rightarrow(\forall X2.(v1_xcmplx_0 X2)\Rightarrow((X0\neq k6_numbers)\Rightarrow(k7_xcmplx_0 X1 X2 = k7_xcmplx_0 (k3_xcmplx_0 X1 X0) (k3_xcmplx_0 X2 X0)))))) \quad (9)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0)\Rightarrow(\forall X1.(v1_xcmplx_0 X1)\Rightarrow((X0\neq k6_numbers)\Rightarrow(X1 = k7_xcmplx_0 (k3_xcmplx_0 X1 X0) X0))) \quad (10)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0)\Rightarrow(\forall X1.(v1_xcmplx_0 X1)\Rightarrow(\forall X2.(v1_xcmplx_0 X2)\Rightarrow(k3_xcmplx_0 X0 (k7_xcmplx_0 X1 X2) = k7_xcmplx_0 (k3_xcmplx_0 X0 X1) X2))) \quad (11)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0)\Rightarrow(\forall X1.(v1_xcmplx_0 X1)\Rightarrow((X0\neq k6_numbers)\Rightarrow(k3_xcmplx_0 (k7_xcmplx_0 X1 X0) X0 = X1))) \quad (12)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0)\Rightarrow(\forall X1.(v1_xcmplx_0 X1)\Rightarrow(k4_xcmplx_0 (k7_xcmplx_0 X0 X1) = k7_xcmplx_0 (k4_xcmplx_0 X0) X1)) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0)\wedge(v1_xcmplx_0 X1))\Rightarrow(v1_xcmplx_0 (k7_xcmplx_0 X0 X1)) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0)\wedge(v1_xcmplx_0 X1))\Rightarrow(v1_xcmplx_0 (k2_xcmplx_0 X0 X1)) \quad (15)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0)\Rightarrow(v1_xcmplx_0 (k4_xcmplx_0 X0)) \quad (16)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow ((X1 = k4_xcmplx_0 X0) \Leftrightarrow (k2_xcmplx_0 X0 X1 = k6_numbers))) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0) \wedge (v1_xcmplx_0 X1)) \Rightarrow (k3_xcmplx_0 X0 X1 = k3_xcmplx_0 X1 X0) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0) \wedge (v1_xcmplx_0 X1)) \Rightarrow (k2_xcmplx_0 X0 X1 = k2_xcmplx_0 X1 X0) \quad (19)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow (\forall X2. \\ & (v1_xcmplx_0 X2) \Rightarrow (\forall X3.(v1_xcmplx_0 X3) \Rightarrow ((k7_xcmplx_0 \\ & X2 X0 = k7_xcmplx_0 X3 X1) \Rightarrow ((X0 = k6_numbers) \vee ((X1 = k6_numbers) \vee \\ & ((X0 = k4_xcmplx_0 X1) \vee (k7_xcmplx_0 X2 X0 = k7_xcmplx_0 (k2_xcmplx_0 \\ & X2 X3) (k2_xcmplx_0 X0 X1)))))))))) \end{aligned}$$