

t64_intpro_1
(TMPdGfs4A9hTUwHhadqgVjoShBayFw4rtC4)

October 27, 2020

Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_intpro_1 : \iota$ be given. Let $k3_intpro_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_intpro_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_intpro_1 : \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k1_intpro_1) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 k1_intpro_1) \Rightarrow (\forall X2.(m1_subset_1 X2 k1_intpro_1) \Rightarrow ((\\ k3_intpro_1 X0 X1 \in k8_intpro_1) \Rightarrow (k3_intpro_1 (k5_intpro_1 X2 \\ X0) (k5_intpro_1 X2 X1) \in k8_intpro_1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k1_intpro_1) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 k1_intpro_1) \Rightarrow (\forall X2.(m1_subset_1 X2 k1_intpro_1) \Rightarrow ((\\ k3_intpro_1 X0 X1 \in k8_intpro_1) \Rightarrow (k3_intpro_1 (k5_intpro_1 X0 \\ X2) (k5_intpro_1 X1 X2) \in k8_intpro_1)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k1_intpro_1) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 k1_intpro_1) \Rightarrow (\forall X2.(m1_subset_1 X2 k1_intpro_1) \Rightarrow (k3_intpro_1 \\ (k3_intpro_1 X0 X1) (k3_intpro_1 X0 (k5_intpro_1 X2 X1)) \in k8_intpro_1))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k1_intpro_1) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 k1_intpro_1) \Rightarrow (k3_intpro_1 (k5_intpro_1 X0 X1) (k5_intpro_1 \\ X1 X0) \in k8_intpro_1)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k1_intpro_1) \Rightarrow (k3_intpro_1 (k5_intpro_1 \\ X0 X0) X0 \in k8_intpro_1) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_intpro_1) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k1_intpro_1) \Rightarrow (\forall X2.(m1_subset_1 X2 k1_intpro_1) \Rightarrow ((\\ & (k3_intpro_1 X0 (k3_intpro_1 X1 X2) \in k8_intpro_1) \wedge (X1 \in k8_intpro_1)) \Rightarrow \\ & (k3_intpro_1 X0 X2 \in k8_intpro_1)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_intpro_1) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k1_intpro_1) \Rightarrow (\forall X2.(m1_subset_1 X2 k1_intpro_1) \Rightarrow ((\\ & (k3_intpro_1 X0 X1 \in k8_intpro_1) \wedge (k3_intpro_1 X1 X2 \in k8_intpro_1)) \Rightarrow \\ & (k3_intpro_1 X0 X2 \in k8_intpro_1)))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_intpro_1) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k1_intpro_1) \Rightarrow (\forall X2.(m1_subset_1 X2 k1_intpro_1) \Rightarrow ((\\ & k3_intpro_1 X0 (k3_intpro_1 X1 X2) \in k8_intpro_1) \Rightarrow (k3_intpro_1 \\ & X1 (k3_intpro_1 X0 X2) \in k8_intpro_1)))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_intpro_1) \Rightarrow (k3_intpro_1 X0 X0 \in k8_intpro_1) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((m1_subset_1 X0 k1_intpro_1) \wedge (m1_subset_1 \\ & X1 k1_intpro_1)) \Rightarrow (m1_subset_1 (k5_intpro_1 X0 X1) k1_intpro_1) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((m1_subset_1 X0 k1_intpro_1) \wedge (m1_subset_1 \\ & X1 k1_intpro_1)) \Rightarrow (m1_subset_1 (k3_intpro_1 X0 X1) k1_intpro_1) \end{aligned} \quad (11)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_intpro_1) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k1_intpro_1) \Rightarrow (\forall X2.(m1_subset_1 X2 k1_intpro_1) \Rightarrow (k3_intpro_1 \\ & (k5_intpro_1 X0 (k5_intpro_1 X1 X2)) (k5_intpro_1 X1 (k5_intpro_1 \\ & X0 X2)) \in k8_intpro_1)))) \end{aligned}$$