

t53_intpro_1

(TMU2kUqvvtK7YaHpGtFocUyx6mU9qMMr3vpM)

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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 $k4_intpro_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_intpro_1 : \iota$ be given. Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_intpro_1) \Rightarrow (\forall X1.(m1_subset_1 \\ & \quad X1 k1_intpro_1) \Rightarrow (\forall X2.(m1_subset_1 X2 k1_intpro_1) \Rightarrow (k3_intpro_1 \\ & \quad (k4_intpro_1 X0 (k4_intpro_1 X1 X2)) (k4_intpro_1 (k4_intpro_1 \\ & \quad \quad X0 X2) X1) \in k8_intpro_1))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_intpro_1) \Rightarrow (\forall X1.(m1_subset_1 \\ & \quad X1 k1_intpro_1) \Rightarrow (\forall X2.(m1_subset_1 X2 k1_intpro_1) \Rightarrow (k3_intpro_1 \\ & \quad (k4_intpro_1 (k4_intpro_1 X0 X1) X2) (k4_intpro_1 (k4_intpro_1 \\ & \quad \quad X0 X2) X1) \in k8_intpro_1))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((m1_subset_1 X0 k1_intpro_1) \wedge (m1_subset_1 \\ & \quad X1 k1_intpro_1)) \Rightarrow (m1_subset_1 (k4_intpro_1 X0 X1) k1_intpro_1) \end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_intpro_1) \Rightarrow (\forall X1.(m1_subset_1 \\ & \quad X1 k1_intpro_1) \Rightarrow (\forall X2.(m1_subset_1 X2 k1_intpro_1) \Rightarrow (k3_intpro_1 \\ & \quad (k4_intpro_1 X0 (k4_intpro_1 X1 X2)) (k4_intpro_1 (k4_intpro_1 \\ & \quad \quad X0 X1) X2) \in k8_intpro_1))) \end{aligned}$$