

t73_member_1
(TMFujQ23Cr8N2fkLWz19HR3tjcKfWuG6cuH)

October 27, 2020

Let $v1_membered : \iota \Rightarrow o$ be given. Let $k11_member_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_member_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_member_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_membered X0) \Rightarrow (\forall X1.(v1_membered X1) \Rightarrow (\forall X2. \\ & (v1_membered X2) \Rightarrow (k9_member_1 X0 (k11_member_1 X1 X2) = k11_member_1 \\ & (k9_member_1 X0 X1) X2))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_membered X0) \Rightarrow (\forall X1.(v1_membered X1) \Rightarrow (k5_member_1 \\ & (k9_member_1 X0 X1) = k9_member_1 (k5_member_1 X0) (k5_member_1 \\ & X1))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_membered X0) \wedge (v1_membered X1)) \Rightarrow (\\ & v1_membered (k9_member_1 X0 X1)) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.(v1_membered X0) \Rightarrow (v1_membered (k5_member_1 X0)) \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_membered X0) \Rightarrow (\forall X1.(v1_membered X1) \Rightarrow (k11_member_1 \\ & X0 X1 = k9_member_1 X0 (k5_member_1 X1))) \end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned} & \forall X0.(v1_membered X0) \Rightarrow (\forall X1.(v1_membered X1) \Rightarrow (\forall X2. \\ & (v1_membered X2) \Rightarrow (k11_member_1 X0 (k9_member_1 X1 X2) = k11_member_1 \\ & (k11_member_1 X0 X1) X2))) \end{aligned}$$