

l5_tbsp_1

(TMbbztZw2NkqtoL6H94JqYFB89asbjYzhWT)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_metric_1 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 \\ & X2)) \Rightarrow (((k9_xtuple_0 X2 = X0) \wedge (\forall X3. (X3 \in X0) \Rightarrow (k1_funct_1 \\ & X2 X3 \in X1))) \Rightarrow ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. ((\\ & \neg v2_struct_0 X1) \wedge (l1_struct_0 X1)) \Rightarrow (\forall X2. (m1_subset_1 \\ & X2 (u1_struct_0 X1)) \Rightarrow (((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers \\ & (u1_struct_0 X1)) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k5_numbers (u1_struct_0 X1)))))) \Leftrightarrow ((k9_xtuple_0 X0 = k5_numbers) \wedge \\ & (\forall X3. (X3 \in k5_numbers) \Rightarrow (m1_subset_1 (k1_funct_1 X0 X3) \\ & (u1_struct_0 X1)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \tag{4}$$

Assume the following.

$$\forall X0. \exists X1. m1_subset_1 X1 X0 \tag{5}$$

Assume the following.

$$\forall X0.(l1_metric_1 X0)\Rightarrow(l1_struct_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge(l1_metric_1 X0))\Rightarrow(\forall X1. \\ & ((v1_relat_1 X1)\wedge(v1_funct_1 X1))\Rightarrow(((v1_funct_1 X1)\wedge((v1_funct_2 \\ & X1 k5_numbers (u1_struct_0 X0))\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 k5_numbers (u1_struct_0 X0))))))\Leftrightarrow((k9_xtuple_0 \\ & X1 = k5_numbers)\wedge(\forall X2.(X2 \in k5_numbers)\Rightarrow(m1_subset_1 (\\ & k1_funct_1 X1 X2) (u1_struct_0 X0)))))) \end{aligned}$$