

t30_graph_3 (TMLh-
wXG86fC9X6fYxzQ5H4cwHZ9qySHeWqQ)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v6_graph_1 : \iota \Rightarrow o$ be given. Let $l1_graph_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k2_graph_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_graph_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_graph_1 : \iota \Rightarrow \iota$ be given. Let $u2_graph_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (m1_subset_1 (k3_graph_3 X0 X1 X2) (k1_zfmisc_1 (u4_struct_0 X0)))) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (m1_subset_1 (k2_graph_3 X0 X1 X2) (k1_zfmisc_1 (u4_struct_0 X0)))) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k3_xboole_0 X0 X1) \Leftrightarrow (\forall X3.(X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (X3 \in X1))) \quad (3)$$

Assume the following.

$$\forall X0.(((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (u4_struct_0 X0))) \Rightarrow ((X3 = k3_graph_3 X0 X1 X2) \Leftrightarrow (\forall X4.(X4 \in X3) \Leftrightarrow ((X4 \in u4_struct_0 X0) \wedge ((X4 \in X2) \wedge (k1_funct_1 (u1_graph_1 X0) X4 = X1)))))))))) \quad (4)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \Rightarrow (\forall X1. \\
& (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \forall X3. (m1_subset_1 \\
& X3 (k1_zfmisc_1 (u4_struct_0 X0))) \Rightarrow ((X3 = k2_graph_3 X0 X1 X2) \Leftrightarrow \\
& (\forall X4. (X4 \in X3) \Leftrightarrow ((X4 \in u4_struct_0 X0) \wedge ((X4 \in X2) \wedge (k1_funct_1 \\
& (u2_graph_1 X0) X4 = X1))))))
\end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v6_graph_1 X1) \wedge (\\
& l1_graph_1 X1))) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow \\
& ((k2_graph_3 X1 X2 X0 = k2_graph_3 X1 X2 (k3_xboole_0 X0 (u4_struct_0 \\
& X1))) \wedge (k3_graph_3 X1 X2 X0 = k3_graph_3 X1 X2 (k3_xboole_0 X0 (u4_struct_0 \\
& X1))))))
\end{aligned}$$