

t24_tbsp_1

(TMQ5Dh5oRZcrcBwXHb4nZCMTwwyJCNFFo8)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v6_metric_1 : \iota \Rightarrow o$ be given. Let $l1_metric_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v6_tbsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_tbsp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k2_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v8_metric_1 : \iota \Rightarrow o$ be given. Let $v9_metric_1 : \iota \Rightarrow o$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\neg(X0 \in X1) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 X2)) \wedge (v1_xboole_0 X2)) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (3)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v6_metric_1 X0) \wedge (l1_metric_1 X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((v6_tbsp_1 X1 X0) \Rightarrow (r1_xreal_0 k6_numbers (k3_tbsp_1 X0 X1)))) \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_metric_1 X0)) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (((v6_tbsp_1 X1 X0) \wedge (r1_tarski X2 X1)) \Rightarrow (v6_tbsp_1 X2 X0)))) \quad (5)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_metric_1 X0)) \Rightarrow (\forall X1. \\
& (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((\neg(X1 \neq k1_xboole_0) \wedge \\
& ((v6_tbsp_1 X1 X0) \wedge (\forall X2.(m1_subset_1 X2 k1_numbers) \Rightarrow (\\
& \forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\neg(\neg r1_xxreal_0 \\
& X2 k6_numbers) \wedge ((X3 \in X1) \wedge (\forall X4.(m1_subset_1 X4 (u1_struct_0 \\
& X0)) \Rightarrow ((X4 \in X1) \Rightarrow (r1_xxreal_0 (k2_metric_1 X0 X3 X4) X2)))))) \wedge \\
& ((v8_metric_1 X0) \wedge (v9_metric_1 X0)) \Rightarrow ((\forall X2.(m1_subset_1 \\
& X2 k1_numbers) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow \\
& (\neg(\neg r1_xxreal_0 X2 k6_numbers) \wedge (\forall X4.(m1_subset_1 X4 (\\
& u1_struct_0 X0)) \Rightarrow ((X4 \in X1) \Rightarrow (r1_xxreal_0 (k2_metric_1 X0 X3 X4) \\
& X2)))))) \vee (v6_tbsp_1 X1 X0))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\exists X0.(v1_xboole_0 X0) \wedge ((v1_xcmplx_0 X0) \wedge ((v1_xxreal_0 X0) \wedge (v1_xreal_0 X0))) \tag{7}$$

Assume the following.

$$\forall X0.\exists X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \wedge (v1_xboole_0 X1) \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(((\neg v2_struct_0 X0) \wedge ((v6_metric_1 X0) \wedge \\
& (l1_metric_1 X0))) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\
& X0)))) \Rightarrow (m1_subset_1 (k3_tbsp_1 X0 X1) k1_numbers)
\end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v6_metric_1 X0) \wedge (l1_metric_1 \\
& X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\
& X0))) \Rightarrow ((v6_tbsp_1 X1 X0) \Rightarrow (\forall X2.(m1_subset_1 X2 k1_numbers) \Rightarrow \\
& (((X1 \neq k1_xboole_0) \Rightarrow ((X2 = k3_tbsp_1 X0 X1) \Leftrightarrow ((\forall X3.(m1_subset_1 \\
& X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 \\
& X0)) \Rightarrow (((X3 \in X1) \wedge (X4 \in X1)) \Rightarrow (r1_xxreal_0 (k2_metric_1 X0 X3 X4) \\
& X2)))))) \wedge (\forall X3.(m1_subset_1 X3 k1_numbers) \Rightarrow ((\forall X4. \\
& (m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 \\
& (u1_struct_0 X0)) \Rightarrow (((X4 \in X1) \wedge (X5 \in X1)) \Rightarrow (r1_xxreal_0 (k2_metric_1 \\
& X0 X4 X5) X3)))) \Rightarrow (r1_xxreal_0 X2 X3)))))) \wedge ((X1 = k1_xboole_0) \Rightarrow \\
& ((X2 = k3_tbsp_1 X0 X1) \Leftrightarrow (X2 = k6_numbers))))))
\end{aligned} \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski X0 X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1)\Leftrightarrow((r1_tarski\ X0\ X1)\wedge(r1_tarski\ X1\ X0)) \quad (12)$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0))\Rightarrow(v1_xboole_0\ X1)) \quad (13)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0\ X0)\wedge((v6_metric_1\ X0)\wedge(l1_metric_1 \\ & X0)))\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0 \\ & X0)))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0 \\ & X0))))\Rightarrow(((v6_tbsp_1\ X1\ X0)\wedge(r1_tarski\ X2\ X1))\Rightarrow(r1_xxreal_0\ (k3_tbsp_1 \\ & X0\ X2)\ (k3_tbsp_1\ X0\ X1)))) \end{aligned}$$