

l21_tbsp_1
(TMdEE4T9F9NtXA5eekofxd6hrURCH7v6ioE)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v6_metric_1 : \iota \Rightarrow o$ be given. Let $v8_metric_1 : \iota \Rightarrow o$ be given. Let $v9_metric_1 : \iota \Rightarrow o$ be given. Let $l1_metric_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $v6_tbsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k1_numbers : \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v1_xreal_0 X0) \Rightarrow (\forall X1. (l1_metric_1 X1) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\ & (u1_struct_0 X1)) \Rightarrow ((X3 \in k9_metric_1 X1 X2 X0) \Leftrightarrow ((\neg v2_struct_0 \\ & X1) \wedge (\neg r1_xxreal_0 X0 (k2_metric_1 X1 X2 X3))))))) \quad (2) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_metric_1 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((\neg (X1 \neq k1_xboole_0) \wedge \\ & ((v6_tbsp_1 X1 X0) \wedge (\forall X2. (m1_subset_1 X2 k1_numbers) \Rightarrow (\\ & \forall X3. (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\neg (\neg r1_xxreal_0 \\ & X2 k6_numbers) \wedge ((X3 \in X1) \wedge (\forall X4. (m1_subset_1 X4 (u1_struct_0 \\ & X0)) \Rightarrow ((X4 \in X1) \Rightarrow (r1_xxreal_0 (k2_metric_1 X0 X3 X4) X2)))))))))) \wedge \\ & (((v8_metric_1 X0) \wedge (v9_metric_1 X0)) \Rightarrow ((\forall X2. (m1_subset_1 \\ & X2 k1_numbers) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow \\ & (\neg (\neg r1_xxreal_0 X2 k6_numbers) \wedge (\forall X4. (m1_subset_1 X4 (\\ & u1_struct_0 X0)) \Rightarrow ((X4 \in X1) \Rightarrow (r1_xxreal_0 (k2_metric_1 X0 X3 X4) \\ & X2)))))) \vee (v6_tbsp_1 X1 X0)))))) \quad (3) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((l1_metric_1 X0)\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(v1_xreal_0 X2)))\Rightarrow(m1_subset_1 (k9_metric_1 X0 X1 X2) (k1_zfmisc_1 (u1_struct_0 X0))) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((l1_metric_1 X0)\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow(m1_subset_1 (k2_metric_1 X0 X1 X2) k1_numbers) \quad (5)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Leftrightarrow(X0 \in k1_numbers) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0)\wedge(v1_xxreal_0 X1))\Rightarrow((r1_xxreal_0 X0 X1)\vee(r1_xxreal_0 X1 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xxreal_0 X0) \quad (8)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xreal_0 X0) \quad (9)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v6_metric_1 X0)\wedge((v8_metric_1 X0)\wedge((v9_metric_1 X0)\wedge(l1_metric_1 X0))))))\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.(v1_xreal_0 X2)\Rightarrow((\neg r1_xxreal_0 X2 k6_numbers)\Rightarrow(v6_tbsp_1 (k9_metric_1 X0 X1 X2) X0))))$$