

t30_compl_sp

(TMKjJ2Yky6HqNK8cfhdFdViRWRyRrLV39z9)

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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 $l1_metric_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $r1_xreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(l1_metric_1 X0) \Rightarrow ((\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k2_metric_1 X0 X1 X1 = k6_numbers)) \Leftrightarrow (v6_metric_1 X0)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(l1_metric_1 X1) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ & (u1_struct_0 X1)) \Rightarrow ((X3 \in k9_metric_1 X1 X2 X0) \Leftrightarrow ((\neg v2_struct_0 \\ & X1) \wedge (\neg r1_xreal_0 X0 (k2_metric_1 X1 X2 X3))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0 : \iota \Rightarrow \iota \Rightarrow o. \forall X1. (\neg v1_xboole_0 X1) \Rightarrow (((\forall X2. \\ & (m1_subset_1 X2 X1) \Rightarrow (\forall X3.(m1_subset_1 X3 X1) \Rightarrow ((X0 X2 X3) \Leftrightarrow \\ & (X0 X3 X2)))) \wedge (\forall X2.(m1_subset_1 X2 X1) \Rightarrow (\neg X0 X2 X2))) \Rightarrow (\exists X2. \\ & (m1_subset_1 X2 (k1_zfmisc_1 X1)) \wedge ((\forall X3.(m1_subset_1 \\ & X3 X1) \Rightarrow (\forall X4.(m1_subset_1 X4 X1) \Rightarrow (((X3 \in X2) \wedge (X4 \in X2)) \Rightarrow (\\ & (X3 = X4) \vee (X0 X3 X4)))))) \wedge (\forall X3.(m1_subset_1 X3 X1) \Rightarrow (\exists X4. \\ & (m1_subset_1 X4 X1) \wedge ((X4 \in X2) \wedge (\neg X0 X3 X4)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (((v8_metric_1 X0) \wedge (l1_metric_1 X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (k4_metric_1 X0 X1 X2 = k2_metric_1 X0 X1 X2) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v8_metric_1 X0)\wedge(l1_metric_1 X0))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow(k4_metric_1 X0 X1 X2 = k4_metric_1 X0 X2 X1) \quad (5)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xreal_0 X0) \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v6_metric_1 X0)\wedge((v8_metric_1 X0)\wedge(l1_metric_1 X0))))\Rightarrow(\forall X1.(m1_subset_1 X1 k1_numbers)\Rightarrow \\ & (\neg(\neg r1_xxreal_0 X1 k6_numbers)\wedge(\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))\Rightarrow(\neg(\forall X3.(m1_subset_1 X3 (u1_struct_0 X0))\Rightarrow(\forall X4.(m1_subset_1 X4 (u1_struct_0 X0))\Rightarrow \\ & (((X3 \in X2)\wedge(X4 \in X2))\Rightarrow((X3 = X4)\vee(r1_xxreal_0 X1 (k4_metric_1 X0 X3 X4))))))\wedge(\forall X3.(m1_subset_1 X3 (u1_struct_0 X0))\Rightarrow(\exists X4. \\ & (m1_subset_1 X4 (u1_struct_0 X0))\wedge((X4 \in X2)\wedge(X3 \in k9_metric_1 X0 X4 X1)))))))))) \end{aligned}$$