

t33_metric_2

(TMHvw6fUKxCsGDVu5A9fQBYjwFQQN76H1tV)

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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 $k2_metric_2 : \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $r4_metric_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_metric_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k4_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v6_metric_1 X0) \wedge ((v8_metric_1 \\ X0) \wedge ((v9_metric_1 X0) \wedge (l1_metric_1 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 (u1_struct_0 X0)) \Rightarrow (X1 \in k1_metric_2 X0 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1.(m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v6_metric_1 X0) \wedge ((v8_metric_1 \\ X0) \wedge ((v9_metric_1 X0) \wedge (l1_metric_1 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 (k2_metric_2 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k2_metric_2 \\ X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 k1_numbers) \Rightarrow ((r4_metric_2 \\ X0 X1 X2 X3) \Leftrightarrow (\exists X4.(m1_subset_1 X4 (u1_struct_0 X0)) \wedge (\exists X5. \\ (m1_subset_1 X5 (u1_struct_0 X0)) \wedge ((X4 \in X1) \wedge ((X5 \in X2) \wedge (k4_metric_1 \\ X0 X4 X5 = X3)))))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1.((\neg v2_struct_0 X1) \wedge (l1_metric_1 X1)) \Rightarrow \\ ((X0 \in k2_metric_2 X1) \Leftrightarrow (\exists X2.(m1_subset_1 X2 (u1_struct_0 \\ X1)) \wedge (X0 = k1_metric_2 X1 X2))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v8_metric_1 X0)\wedge(l1_metric_1 X0))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow(k4_metric_1 X0 X1 X2 = k2_metric_1 X0 X1 X2) \quad (5)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_metric_1 X0))\Rightarrow(\neg v1_xboole_0 (k2_metric_2 X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((l1_metric_1 X0)\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow(m1_subset_1 (k2_metric_1 X0 X1 X2) k1_numbers) \quad (7)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v6_metric_1 X0)\wedge((v8_metric_1 X0)\wedge((v9_metric_1 X0)\wedge(l1_metric_1 X0))))))\Rightarrow(\forall X1.(m1_subset_1 X1 (k2_metric_2 X0))\Rightarrow(\forall X2.(m1_subset_1 X2 (k2_metric_2 X0))\Rightarrow(\exists X3.(m1_subset_1 X3 k1_numbers)\wedge(r4_metric_2 X0 X1 X2 X3))))$$