

t36_metric_2 (TM- GYHRRpKA4YiSuPuCGTfj3TQGxbFvNJ51p)

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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 $r1_xreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_metric_2 : \iota \Rightarrow \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_metric_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k4_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \neg(X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v6_metric_1 X0) \wedge ((v8_metric_1 X0) \wedge ((v9_metric_1 X0) \wedge (l1_metric_1 X0))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (X1 \in k1_metric_2 X0 X1)) \quad (2)$$

Assume the following.

$$\forall X0. (l1_metric_1 X0) \Rightarrow ((\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (r1_xreal_0 (k2_metric_1 X0 X1 X3) (k7_real_1 (k2_metric_1 X0 X1 X2) (k2_metric_1 X0 X2 X3)))))) \Leftrightarrow (v9_metric_1 X0)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 X0 X1) \wedge (k1_numbers X1)) \Rightarrow (k7_real_1 X0 X1 = k2_xcmplx_0 X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v8_metric_1 X0)\wedge(l1_metric_1 X0))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow(k4_metric_1 X0 X1 X2 = k2_metric_1 X0 X1 X2) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_metric_1 X0))\Rightarrow(\neg v1_xboole_0 (k2_metric_2 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((l1_metric_1 X0)\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow(m1_subset_1 (k2_metric_1 X0 X1 X2) k1_numbers) \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v6_metric_1 X0)\wedge((v8_metric_1 X0)\wedge((v9_metric_1 X0)\wedge(l1_metric_1 X0))))))\Rightarrow((v1_funct_1 (k10_metric_2 X0))\wedge((v1_funct_2 (k10_metric_2 X0) (k2_zfmisc_1 (k2_metric_2 X0) (k2_metric_2 X0)) k1_numbers)\wedge(m1_subset_1 (k10_metric_2 X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k2_metric_2 X0) (k2_metric_2 X0)) k1_numbers)))))) \quad (9)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_metric_1 X0))\Rightarrow(k2_metric_2 X0 = ReplSep (toset (\lambda X1 : \iota.m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))) (\lambda X1 : \iota.\exists X2.(m1_subset_1 X2 (u1_struct_0 X0))\wedge(k1_metric_2 X0 X2 = X1)) (\lambda X1 : \iota.X1)) \quad (10)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v6_metric_1 X0)\wedge((v8_metric_1 X0)\wedge((v9_metric_1 X0)\wedge(l1_metric_1 X0))))))\Rightarrow(\forall X1.((v1_funct_1 X1)\wedge((v1_funct_2 X1 (k2_zfmisc_1 (k2_metric_2 X0) (k2_metric_2 X0)) k1_numbers)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k2_metric_2 X0) (k2_metric_2 X0)) k1_numbers))))))\Rightarrow((X1 = k10_metric_2 X0)\Leftrightarrow(\forall X2.(m1_subset_1 X2 (k2_metric_2 X0))\Rightarrow(\forall X3.(m1_subset_1 X3 (k2_metric_2 X0))\Rightarrow(\forall X4.(m1_subset_1 X4 (u1_struct_0 X0))\Rightarrow(\forall X5.(m1_subset_1 X5 (u1_struct_0 X0))\Rightarrow(((X4 \in X2)\wedge(X5 \in X3))\Rightarrow(k1_metric_1 (k2_metric_2 X0) (k2_metric_2 X0) X1 X2 X3 = k4_metric_1 X0 X4 X5)))))))))) \quad (11)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xreal_0 X0) \quad (12)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v6_metric_1 X0) \wedge ((v8_metric_1 \\ X0) \wedge ((v9_metric_1 X0) \wedge (l1_metric_1 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 (k2_metric_2 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k2_metric_2 \\ X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (k2_metric_2 X0)) \Rightarrow (r1_xreal_0 \\ (k1_metric_1 (k2_metric_2 X0) (k2_metric_2 X0) (k10_metric_2 \\ X0) X1 X3) (k2_xcmplx_0 (k1_metric_1 (k2_metric_2 X0) (k2_metric_2 \\ X0) (k10_metric_2 X0) X1 X2) (k1_metric_1 (k2_metric_2 X0) (k2_metric_2 \\ X0) (k10_metric_2 X0) X2 X3)))))) \end{aligned}$$