

t15_metric_1

(TMY2CVeSTVCdzySvCQ8WT7TvgTdi8w1BfwW)

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Let $v1_xreal_0 : \iota \Rightarrow o$ 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 $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k11_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $k2_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v2_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow ((\forall X3. (m1_subset_1 X3 X0) \Rightarrow ((X3 \in X1) \Rightarrow (X3 \in X2))) \Rightarrow (r1_tarski X1 X2))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v1_xreal_0 X0) \Rightarrow (\forall X1. (l1_metric_1 X1) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\ & (u1_struct_0 X1)) \Rightarrow ((X3 \in k11_metric_1 X1 X2 X0) \Leftrightarrow ((\neg v2_struct_0 \\ & X1) \wedge (k2_metric_1 X1 X2 X3 = X0)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v1_xreal_0 X0) \Rightarrow (\forall X1. (l1_metric_1 X1) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\ & (u1_struct_0 X1)) \Rightarrow ((X3 \in k10_metric_1 X1 X2 X0) \Leftrightarrow ((\neg v2_struct_0 \\ & X1) \wedge (r1_xxreal_0 (k2_metric_1 X1 X2 X3) X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$v3_membered k1_numbers \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((l1_metric_1 X0) \wedge ((m1_subset_1 \\ & X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 \\ & (k2_metric_1 X0 X1 X2) k1_numbers) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((l1_metric_1 X0)\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(v1_xreal_0 X2)))\Rightarrow(m1_subset_1 (k11_metric_1 X0 X1 X2) (k1_zfmisc_1 (u1_struct_0 X0)))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((l1_metric_1 X0)\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(v1_xreal_0 X2)))\Rightarrow(m1_subset_1 (k10_metric_1 X0 X1 X2) (k1_zfmisc_1 (u1_struct_0 X0)))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0)\wedge(v1_xxreal_0 X1))\Rightarrow((r1_xxreal_0 X0 X1)\vee(r1_xxreal_0 X1 X0)) \quad (8)$$

Assume the following.

$$\forall X0.(v3_membered X0)\Rightarrow(v2_membered X0) \quad (9)$$

Assume the following.

$$\forall X0.(v2_membered X0)\Rightarrow(\forall X1.(m1_subset_1 X1 X0)\Rightarrow(v1_xxreal_0 X1)) \quad (10)$$

Theorem 1

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(\forall X1.(l1_metric_1 X1)\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 X1))\Rightarrow(r1_tarski (k11_metric_1 X1 X2 X0) (k10_metric_1 X1 X2 X0))))$$