

t17_metric_6 (TMUWKkZ- GyM6PD6BNTwCzSxwwP8kkeupBRBf)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v6_metric_1 : \iota \Rightarrow o$ be given. Let $v7_metric_1 : \iota \Rightarrow o$ 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 $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_pcomps_1 : \iota \Rightarrow \iota$ be given. Let $r2_metric_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_metric_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ 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 $k6_numbers : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k4_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k2_tbsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (1)$$

Assume the following.

$$\forall X0. (l1_metric_1 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (v1_xreal_0 X2) \Rightarrow ((v9_metric_1 X0) \Rightarrow (k9_metric_1 X0 X1 X2 \in k2_pcomps_1 X0)))) \quad (2)$$

Assume the following.

$$\forall X0. (l1_metric_1 X0) \Rightarrow ((\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k2_metric_1 X0 X1 X1 = k6_numbers)) \Leftrightarrow (v6_metric_1 X0)) \quad (3)$$

Assume the following.

$$\forall X0. (v1_xreal_0 X0) \Rightarrow (\forall X1. (l1_metric_1 X1) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 X1)) \Rightarrow ((X3 \in k9_metric_1 X1 X2 X0) \Leftrightarrow ((\neg v2_struct_0 X1) \wedge (\neg r1_xxreal_0 X0 (k2_metric_1 X1 X2 X3))))))) \quad (4)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((v8_metric_1 X0)\wedge(l1_metric_1 \\ & X0))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 \\ & X0))))\Rightarrow(k4_metric_1 X0 X1 X2 = k2_metric_1 X0 X1 X2) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((l1_metric_1 X0)\wedge((m1_subset_1 \\ & X1 (u1_struct_0 X0))\wedge(v1_xreal_0 X2)))\Rightarrow(m1_subset_1 (k9_metric_1 \\ & X0 X1 X2) (k1_zfmisc_1 (u1_struct_0 X0))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_metric_1 X0)\Rightarrow(m1_subset_1 (k2_pcomps_1 X0) (k1_zfmisc_1 \\ & (k1_zfmisc_1 (u1_struct_0 X0)))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.(((\neg v2_struct_0 X0)\wedge((v6_metric_1 X0)\wedge((v7_metric_1 \\ & X0)\wedge((v8_metric_1 X0)\wedge((v9_metric_1 X0)\wedge(l1_metric_1 X0))))))\Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))\Rightarrow \\ & (\forall X2.((v1_funct_1 X2)\wedge((v1_funct_2 X2 k5_numbers (u1_struct_0 \\ & X0))\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\ & X0))))))\Rightarrow((r2_metric_6 X0 X1 X2)\Leftrightarrow(\exists X3.(m2_subset_1 X3 \\ & k1_numbers k5_numbers)\wedge(\forall X4.(m2_subset_1 X4 k1_numbers \\ & k5_numbers)\Rightarrow((r1_xreal_0 X3 X4)\Rightarrow(k2_tbsp_1 X0 X2 X4 \in X1)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.(((\neg v2_struct_0 X0)\wedge(l1_metric_1 X0))\Rightarrow(\forall X1. \\ & ((v1_funct_1 X1)\wedge((v1_funct_2 X1 k5_numbers (u1_struct_0 X0))\wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\ & X0))))))\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow((r1_metric_6 \\ & X0 X1 X2)\Leftrightarrow(\forall X3.(m1_subset_1 X3 k1_numbers)\Rightarrow(\neg(\neg r1_xreal_0 \\ & X3 k6_numbers)\wedge(\forall X4.(m2_subset_1 X4 k1_numbers k5_numbers)\Rightarrow \\ & (\exists X5.(m2_subset_1 X5 k1_numbers k5_numbers)\wedge((r1_xreal_0 \\ & X4 X5)\wedge(r1_xreal_0 X3 (k2_metric_1 X0 (k2_tbsp_1 X0 X1 X5) X2)))))))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((v8_metric_1 X0)\wedge(l1_metric_1 \\ & X0))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 \\ & X0))))\Rightarrow(k4_metric_1 X0 X1 X2 = k4_metric_1 X0 X2 X1) \end{aligned} \quad (11)$$

Assume the following.

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

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v6_metric_1 X0) \wedge ((v7_metric_1 \\ & X0) \wedge ((v8_metric_1 X0) \wedge ((v9_metric_1 X0) \wedge (l1_metric_1 X0)))))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.((\\ & v1_funct_1 X2) \wedge ((v1_funct_2 X2 k5_numbers (u1_struct_0 X0)) \wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\ & X0)))))) \Rightarrow ((\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \Rightarrow (((X1 \in X3) \wedge (X3 \in k2_pcomps_1 X0)) \Rightarrow (r2_metric_6 X0 X3 X2))) \Rightarrow \\ & (r1_metric_6 X0 X2 X1)))) \end{aligned}$$