

t24_metric_1 (TMMZhcmXVhMeXGThAFX-
HzXdfMiHZM4YGhFh)

October 27, 2020

Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_metric_1 : \iota$ be given. Let $k4_xxreal_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $k7_funct_5 : \iota$ 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 $k1_numbers : \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k1_xxreal_0 : \iota$ be given. Assume the following.

$$np_1 = k1_tarski\ k1_xboole_0 \quad (1)$$

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.

$$\forall X0.(v1_xxreal_0\ X0) \Rightarrow (\forall X1.(v1_xxreal_0\ X1) \Rightarrow (r1_xxreal_0\ X0\ (k4_xxreal_0\ X0\ X1))) \quad (3)$$

Assume the following.

$$\neg v1_xboole_0\ np_1 \quad (4)$$

Assume the following.

$$k3_metric_1 = k7_funct_5 \quad (5)$$

Assume the following.

$$(v1_funct_1\ k3_metric_1) \wedge ((v1_funct_2\ k3_metric_1\ (k2_zfmisc_1\ np_1\ np_1)\ k1_numbers) \wedge (m1_subset_1\ k3_metric_1\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k2_zfmisc_1\ np_1\ np_1)\ k1_numbers)))) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((v1_funct_1 \\ & X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 \\ & X1) k1_numbers))))\wedge((m1_subset_1 X3 X0)\wedge(m1_subset_1 X4 X1)))\Rightarrow \\ & (m1_subset_1 (k1_metric_1 X0 X1 X2 X3 X4) k1_numbers) \end{aligned} \quad (7)$$

Assume the following.

$$k1_xxreal_0 = k1_numbers \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(X1 = k1_tarski X0)\Leftrightarrow(\forall X2.(X2 \in X1)\Leftrightarrow \\ & (X2 = X0)) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xxreal_0 X0) \quad (10)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 np_1)\Rightarrow(\forall X1.(m1_subset_1 X1 \\ & np_1)\Rightarrow(\forall X2.(m1_subset_1 X2 np_1)\Rightarrow(r1_xxreal_0 (k1_metric_1 \\ & np_1 np_1 k3_metric_1 X0 X2) (k4_xxreal_0 (k1_metric_1 np_1 \\ & np_1 k3_metric_1 X0 X1) (k1_metric_1 np_1 np_1 k3_metric_1 X1 \\ & X2)))))) \end{aligned}$$