

t29_metric_1 (TM-
Fcf553cYVWbwazNKkkVBbBfv8oBdLmdbi)

October 27, 2020

Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_2 : \iota$ 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 $k12_metric_1 : \iota$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k7_metric_1 : \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 k1_numbers) \Rightarrow ((k1_metric_1 k1_numbers k1_numbers k7_metric_1 \\ X0 X1 = k6_numbers) \Leftrightarrow (X0 = X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 np_2) \Rightarrow (\forall X1.(m1_subset_1 X1 \\ np_2) \Rightarrow (k1_metric_1 np_2 np_2 k12_metric_1 X0 X1 = k6_numbers)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 k1_numbers) \Rightarrow (\forall X2.(m1_subset_1 X2 k1_numbers) \Rightarrow (r1_xreal_0 \\ (k1_metric_1 k1_numbers k1_numbers k7_metric_1 X0 X1) (k7_real_1 \\ (k1_metric_1 k1_numbers k1_numbers k7_metric_1 X0 X2) (k1_metric_1 \\ k1_numbers k1_numbers k7_metric_1 X2 X1)))))) \end{aligned} \quad (3)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((v1_funct_1 \\ X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 \\ X1) k1_numbers)))) \wedge ((m1_subset_1 X3 X0) \wedge (m1_subset_1 X4 X1))) \Rightarrow \\ (m1_subset_1 (k1_metric_1 X0 X1 X2 X3 X4) k1_numbers) \end{aligned} \quad (5)$$

Assume the following.

$$(v1_funct_1\ k12_metric_1) \wedge ((v1_funct_2\ k12_metric_1\ (k2_zfmisc_1\ np_2\ np_2)\ k1_numbers) \wedge (m1_subset_1\ k12_metric_1\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k2_zfmisc_1\ np_2\ np_2)\ k1_numbers)))) \quad (6)$$

Theorem 1

$$\forall X0.(m1_subset_1\ X0\ np_2) \Rightarrow (\forall X1.(m1_subset_1\ X1\ np_2) \Rightarrow (\forall X2.(m1_subset_1\ X2\ np_2) \Rightarrow (r1_xxreal_0\ (k1_metric_1\ np_2\ np_2\ k12_metric_1\ X0\ X2)\ (k7_real_1\ (k1_metric_1\ np_2\ np_2\ k12_metric_1\ X0\ X1)\ (k1_metric_1\ np_2\ np_2\ k12_metric_1\ X1\ X2))))))$$