

t27_metric_1

(TMU2zj11GwLvyu1WKWX2vuxHb1CtxEjKQeh)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_2 : \iota$ 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 $k6_numbers : \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k8_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $v2_valued_0 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v4_valued_0 : \iota \Rightarrow o$ be given. Let $v5_valued_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. (k4_tarski X0 X1 \in k2_zfmisc_1 X2 X3) \Leftrightarrow ((X0 \in X2) \wedge (X1 \in X3)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (X1 \in X0) \Rightarrow (k1_funct_1 (k2_funcop_1 X0 X2) X1 = X2) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (3)$$

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.

$$m1_subset_1 k1_xboole_0 k4_ordinal1 \quad (5)$$

Assume the following.

$$\neg v1_xboole_0 \ np_2 \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 \ X0)\wedge(m1_subset_1 \ X2 \ X0))\Rightarrow(k8_funcop_1 \ X0 \ X1 \ X2 = k2_funcop_1 \ X1 \ X2) \tag{7}$$

Assume the following.

$$k6_numbers = k1_xboole_0 \tag{8}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((v1_funct_1 \ X2)\wedge(m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1) \ k1_numbers))))\wedge((m1_subset_1 \ X3 \ X0)\wedge(m1_subset_1 \ X4 \ X1)))\Rightarrow(k1_metric_1 \ X0 \ X1 \ X2 \ X3 \ X4 = k1_binop_1 \ X2 \ X3 \ X4) \tag{10}$$

Assume the following.

$$\exists X0.(m1_subset_1 \ X0 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ k5_numbers)))\wedge((\neg v1_xboole_0 \ X0)\wedge((v1_relat_1 \ X0)\wedge((v4_relat_1 \ X0 \ k5_numbers)\wedge((v5_relat_1 \ X0 \ k5_numbers)\wedge((v1_funct_1 \ X0)\wedge((v1_partfun1 \ X0 \ k5_numbers)\wedge((v1_funct_2 \ X0 \ k5_numbers \ k5_numbers)\wedge((v1_valued_0 \ X0)\wedge((v2_valued_0 \ X0)\wedge((v3_valued_0 \ X0)\wedge((v4_valued_0 \ X0)\wedge(v5_valued_0 \ X0)))))))))) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.v1_relat_1 \ (k2_zfmisc_1 \ X0 \ X1) \tag{12}$$

Assume the following.

$$\neg v1_xboole_0 \ k1_numbers \tag{13}$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \tag{14}$$

Assume the following.

$$(v1_funct_1 \ k12_metric_1)\wedge((v1_funct_2 \ k12_metric_1 \ (k2_zfmisc_1 \ np_2 \ np_2) \ k1_numbers)\wedge(m1_subset_1 \ k12_metric_1 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k2_zfmisc_1 \ np_2 \ np_2) \ k1_numbers)))) \tag{15}$$

Assume the following.

$$k12_metric_1 = k8_funcop_1 \ k1_numbers \ (k2_zfmisc_1 \ np_2 \ np_2) \ k6_numbers \tag{16}$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. \forall X2. k1_binop_1 X0 X1 X2 = k1_funct_1 X0 (k4_tarski X1 X2)) \quad (17)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow ((v1_xboole_0 X1) \wedge ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)))) \quad (18)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_relat_1 X1)) \quad (19)$$

Theorem 1

$$\forall X0.(m1_subset_1 X0 np_2) \Rightarrow (\forall X1.(m1_subset_1 X1 np_2) \Rightarrow (k1_metric_1 np_2 np_2 k12_metric_1 X0 X1 = k6_numbers))$$