

t57_mesfunc5 (TMVGNvcjd- NaLSCVA9CD4GJ7XMTyz53GYTJD)

October 27, 2020

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 $k7_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_supinf_2 : \iota \Rightarrow \iota$ be given. Let $k17_supinf_2 : \iota \Rightarrow \iota$ be given. Let $v2_membered : \iota \Rightarrow o$ be given. Let $k1_xxreal_2 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v4_card_3 : \iota \Rightarrow o$ be given. Let $m1_xxreal_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Assume the following.

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

Assume the following.

$$\forall X0. (v2_membered X0) \Rightarrow (k8_supinf_2 X0 = k1_xxreal_2 X0) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1_funct_1 X1) \wedge ((v1_funct_2 \\ & X1 k5_numbers X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\ & X0)))))) \wedge (v7_ordinal1 X2)) \Rightarrow (k8_nat_1 X0 X1 X2 = k1_funct_1 X1 X2) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k7_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k7_numbers)))))) \Rightarrow \\ & (k17_supinf_2 X0 = k10_xtuple_0 X0) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(v2_membered\ X0)\Rightarrow(v1_xxreal_0\ (k1_xxreal_2\ X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1\ X1)\wedge(v4_relat_1\ X1\ X0))\Rightarrow(\quad (7)$$

$$m1_subset_1\ (k1_relset_1\ X0\ X1)\ (k1_zfmisc_1\ X0))$$

Assume the following.

$$\forall X0.((v1_funct_1\ X0)\wedge((v1_funct_2\ X0\ k5_numbers\ k7_numbers)\wedge \quad (8)$$

$$(m1_subset_1\ X0\ (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ k7_numbers))))\Rightarrow$$

$$((\neg v1_xboole_0\ (k17_supinf_2\ X0))\wedge((v4_card_3\ (k17_supinf_2$$

$$X0))\wedge(m1_subset_1\ (k17_supinf_2\ X0)\ (k1_zfmisc_1\ k7_numbers))))$$

Assume the following.

$$\forall X0.(v2_membered\ X0)\Rightarrow(\forall X1.(v1_xxreal_0\ X1)\Rightarrow((\quad (9)$$

$$X1 = k1_xxreal_2\ X0)\Leftrightarrow((m1_xxreal_2\ X1\ X0)\wedge(\forall X2.(m1_xxreal_2$$

$$X2\ X0)\Rightarrow(r1_xxreal_0\ X1\ X2))))$$

Assume the following.

$$\forall X0.((v1_relat_1\ X0)\wedge(v1_funct_1\ X0))\Rightarrow(\forall X1.(X1 = \quad (10)$$

$$k10_xtuple_0\ X0)\Leftrightarrow(\forall X2.(X2 \in X1)\Leftrightarrow(\exists X3.(X3 \in k9_xtuple_0$$

$$X0)\wedge(X2 = k1_funct_1\ X0\ X3))))$$

Assume the following.

$$\forall X0.(v2_membered\ X0)\Rightarrow(\forall X1.(v1_xxreal_0\ X1)\Rightarrow((\quad (11)$$

$$m1_xxreal_2\ X1\ X0)\Leftrightarrow(\forall X2.(v1_xxreal_0\ X2)\Rightarrow((X2 \in X0)\Rightarrow(r1_xxreal_0$$

$$X2\ X1))))$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ (k1_zfmisc_1\ k7_numbers))\Rightarrow(v2_membered \quad (12)$$

$$X0)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1 \quad (13)$$

$$(k2_zfmisc_1\ X0\ X1)))\Rightarrow((v4_relat_1\ X2\ X0)\wedge(v5_relat_1\ X2\ X1))$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k7_numbers)\Rightarrow(v1_xxreal_0\ X0) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1 \quad (15)$$

$$(k2_zfmisc_1\ X0\ X1)))\Rightarrow(v1_relat_1\ X2)$$

Assume the following.

$$\forall X0.(v6_membered\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ X0)\Rightarrow (v7_ordinal1\ X1)) \quad (16)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ (k1_zfmisc_1\ k5_numbers))\Rightarrow(v6_membered\ X0) \quad (17)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_funct_1\ X0)\wedge((v1_funct_2\ X0\ k5_numbers\ k7_numbers)\wedge \\ & (m1_subset_1\ X0\ (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ k7_numbers))))))\Rightarrow \\ & (\forall X1.(m1_subset_1\ X1\ k7_numbers)\Rightarrow((\forall X2.(v7_ordinal1 \\ & X2)\Rightarrow(r1_xxreal_0\ (k8_nat_1\ k7_numbers\ X0\ X2)\ X1))\Rightarrow(r1_xxreal_0 \\ & (k8_supinf_2\ (k17_supinf_2\ X0)\ X1))) \end{aligned}$$