

t1_msualg_8 (TMakfm-
fzY5WQoSJnPJ7mAasMYmCgNwNv9Ag)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k4_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $k1_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_card_1 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow \\ & (\forall X1.(v7_ordinal1 X1) \Rightarrow ((X1 \in k1_relset_1 k5_numbers X0) \Leftrightarrow \\ & ((r1_xxreal_0 np_1 X1) \wedge (r1_xxreal_0 X1 (k3_finseq_1 X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow ((\\ & (r1_xxreal_0 X0 X1) \wedge (r1_xxreal_0 X1 X0)) \Rightarrow (X0 = X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow ((\\ & \neg r1_xxreal_0 (k1_nat_1 X1 np_1) X0) \Leftrightarrow (r1_xxreal_0 X0 X1))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \quad (4)$$

Assume the following.

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

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (k4_finseq_1 X0 = k9_xtuple_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (k3_finseq_1 X0 = k1_card_1 X0) \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 X0 k5_numbers) \wedge (v7_ordinal1 X1)) \Rightarrow (k2_nat_1 X0 X1 = k2_xcmplx_0 X0 X1) \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. ((v7_ordinal1 X0) \wedge (m1_subset_1 X1 k5_numbers)) \Rightarrow (k1_nat_1 X0 X1 = k2_xcmplx_0 X0 X1) \quad (10)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \Rightarrow ((\neg r1_xxreal_0 (k3_finseq_1 X1) X0) \Rightarrow ((k2_nat_1 X0 np_1 \in k4_finseq_1 X1) \wedge (k1_funct_1 X1 (k2_nat_1 X0 np_1) \in k10_xtuple_0 X1)))) \quad (11)$$

Assume the following.

$$\forall X0. (v1_finset_1 X0) \Rightarrow ((v1_finset_1 (k1_card_1 X0)) \wedge (v1_card_1 (k1_card_1 X0))) \quad (12)$$

Assume the following.

$$\forall X0. \forall X1. ((v7_ordinal1 X0) \wedge (v7_ordinal1 X1)) \Rightarrow (v7_ordinal1 (k2_xcmplx_0 X0 X1)) \quad (13)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (r1_xxreal_0 X0 X1) \vee (r1_xxreal_0 X1 X0) \quad (14)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (15)$$

Assume the following.

$$\forall X0.((v3_ordinal1\ X0)\wedge(v1_finset_1\ X0))\Rightarrow(v7_ordinal1\ X0) \quad (16)$$

Assume the following.

$$\forall X0.((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge(v1_finseq_1\ X0)))\Rightarrow \\ ((v1_relat_1\ X0)\wedge((v4_relat_1\ X0\ k5_numbers)\wedge((v1_funct_1\ X0)\wedge \\ (v1_finseq_1\ X0)))) \quad (17)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(v1_xxreal_0\ X0) \quad (18)$$

Assume the following.

$$\forall X0.((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge(v1_finseq_1\ X0)))\Rightarrow \\ ((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge(v1_finset_1\ X0))) \quad (19)$$

Assume the following.

$$\forall X0.(v1_card_1\ X0)\Rightarrow(v3_ordinal1\ X0) \quad (20)$$

Theorem 1

$$\forall X0.(m1_subset_1\ X0\ k5_numbers)\Rightarrow(\forall X1.((v1_relat_1 \\ X1)\wedge((v1_funct_1\ X1)\wedge(v1_finseq_1\ X1)))\Rightarrow(((r1_xxreal_0\ np_1 \\ X0)\Rightarrow((r1_xxreal_0\ (k3_finseq_1\ X1)\ X0)\vee((X0 \in k4_finseq_1\ X1)\wedge \\ (k2_nat_1\ X0\ np_1 \in k4_finseq_1\ X1))))\wedge(((X0 \in k4_finseq_1\ X1)\wedge \\ (k2_nat_1\ X0\ np_1 \in k4_finseq_1\ X1))\Rightarrow((r1_xxreal_0\ np_1\ X0)\wedge \\ (\neg r1_xxreal_0\ (k3_finseq_1\ X1)\ X0))))))$$