

t36_afinsq_1

(TMVCYrksv4ENg7rx8zS3Nkm2KkyHduiUaYN)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v5_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_ordinal4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_afinsq_1 : \iota \Rightarrow \iota$ be given. Let $k1_afinsq_1 : \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k3_afinsq_1 : \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_afinsq_1 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $k7_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $v1_membered : \iota \Rightarrow o$ be given. Let $v4_membered : \iota \Rightarrow o$ be given. Let $v5_membered : \iota \Rightarrow o$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (X0 \in k1_nat_1 X0 np_1) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (2)$$

Assume the following.

$$m1_subset_1 k1_xboole_0 k4_ordinal1 \quad (3)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k2_xcmplx_0 X0 k6_numbers = X0) \quad (4)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Leftrightarrow(m1_subset_1 X2 X1)) \quad (6)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (7)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (8)$$

Assume the following.

$$\forall X0.k5_afinsq_1 X0 = k3_afinsq_1 X0 \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k5_numbers)\wedge(v7_ordinal1 X1))\Rightarrow(k2_nat_1 X0 X1 = k2_xcmplx_0 X0 X1) \quad (10)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v5_ordinal1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finset_1 X0))))\Rightarrow(k2_afinsq_1 X0 = k9_xtuple_0 X0) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0)\wedge(m1_subset_1 X1 k5_numbers))\Rightarrow(k1_nat_1 X0 X1 = k2_xcmplx_0 X0 X1) \quad (12)$$

Assume the following.

$$\forall X0.(v5_ordinal1 (k3_afinsq_1 X0))\wedge(v1_finset_1 (k3_afinsq_1 X0)) \quad (13)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1)\wedge(v3_ordinal1 k4_ordinal1) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.(v1_funct_1 (k7_funcop_1 X0 X1))\wedge((v1_funct_2 (k7_funcop_1 X0 X1) X0 (k1_tarski X1))\wedge(m1_subset_1 (k7_funcop_1 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 (k1_tarski X1)))))) \quad (15)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (16)$$

Assume the following.

$$\forall X0.(v1_relat_1 (k5_afinsq_1 X0)) \wedge (v1_funct_1 (k5_afinsq_1 X0)) \quad (17)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((v1_relat_1 X0) \wedge (v5_ordinal1 X0) \wedge (v1_funct_1 X0)) \wedge ((v1_relat_1 X1) \wedge (v5_ordinal1 X1) \wedge (v1_funct_1 X1))) \Rightarrow ((v1_relat_1 (k1_ordinal4 X0 X1)) \wedge (v5_ordinal1 (k1_ordinal4 X0 X1)) \wedge (v1_funct_1 (k1_ordinal4 X0 X1))) \end{aligned} \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0) \wedge (m1_subset_1 X1 k5_numbers)) \Rightarrow (m2_subset_1 (k1_nat_1 X0 X1) k1_numbers k5_numbers) \quad (19)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v5_ordinal1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finset_1 X0)))) \Rightarrow (m2_subset_1 (k1_afinsq_1 X0) k1_numbers k5_numbers) \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.k16_funcop_1 X0 X1 = k7_funcop_1 (k1_tarski X0) X1 \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((X1 = k5_afinsq_1 X0) \Leftrightarrow ((k9_xtuple_0 X1 = np_1) \wedge (k1_funct_1 X1 k6_numbers = X0))) \quad (22)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v5_ordinal1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finset_1 X0)))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v5_ordinal1 X1) \wedge (v1_funct_1 X1) \wedge (v1_finset_1 X1)))) \Rightarrow (\forall X2.((v1_relat_1 X2) \wedge ((v5_ordinal1 X2) \wedge (v1_funct_1 X2)))) \Rightarrow ((X2 = k1_ordinal4 X0 X1) \Leftrightarrow ((k9_xtuple_0 X2 = k2_nat_1 (k1_afinsq_1 X0) (k1_afinsq_1 X1)) \wedge ((\forall X3.(v7_ordinal1 X3) \Rightarrow ((X3 \in k2_afinsq_1 X0) \Rightarrow (k1_funct_1 X2 X3 = k1_funct_1 X0 X3)))) \wedge (\forall X3.(v7_ordinal1 X3) \Rightarrow ((X3 \in k2_afinsq_1 X1) \Rightarrow (k1_funct_1 X2 (k2_nat_1 (k1_afinsq_1 X0) X3) = k1_funct_1 X1 X3)))))) \end{aligned} \quad (23)$$

Assume the following.

$$\forall X0.k3_afinsq_1 X0 = k16_funcop_1 k6_numbers X0 \quad (24)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1\ X0)\wedge(m1_subset_1\ X1\ k5_numbers))\Rightarrow (k1_nat_1\ X0\ X1 = k1_nat_1\ X1\ X0) \quad (25)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k4_ordinal1)\Rightarrow(v7_ordinal1\ X0) \quad (26)$$

Assume the following.

$$\forall X0.(v3_membered\ X0)\Rightarrow(v1_membered\ X0) \quad (27)$$

Assume the following.

$$\forall X0.(v4_membered\ X0)\Rightarrow(v3_membered\ X0) \quad (28)$$

Assume the following.

$$\forall X0.(v5_membered\ X0)\Rightarrow(v4_membered\ X0) \quad (29)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k5_numbers)\Rightarrow(v6_membered\ X0) \quad (30)$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0))\Rightarrow(v1_xboole_0\ X1)) \quad (31)$$

Assume the following.

$$\forall X0.(v6_membered\ X0)\Rightarrow(v5_membered\ X0) \quad (32)$$

Assume the following.

$$\forall X0.(v1_membered\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ X0)\Rightarrow(v1_xcmplx_0\ X1)) \quad (33)$$

Theorem 1

$$\forall X0.\forall X1.((v1_relat_1\ X1)\wedge((v5_ordinal1\ X1)\wedge((v1_funct_1\ X1)\wedge(v1_finset_1\ X1))))\Rightarrow(k1_funct_1\ (k1_ordinal4\ X1\ (k5_afinsq_1\ X0))\ (k1_afinsq_1\ X1) = X0)$$