

t33_scmpds_7

(TMXQHN7cMDrEiXQu9iQzo5UjDUr9mSwm5DC)

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Let $v1_ami_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_scmpds_2 : \iota$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_afinsq_1 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_card_1 : \iota \Rightarrow \iota$ be given. Let $np_3 : \iota$ be given. Let $k2_afinsq_1 : \iota \Rightarrow \iota$ be given. Let $k1_scmpds_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge (v1_afinsq_1 X0)))))) \Rightarrow (\forall X1.(v7_ordinal1 \\ X1) \Rightarrow ((X1 \in k2_afinsq_1 X0) \Leftrightarrow (\neg r1_xxreal_0 (k5_card_1 X0) X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmpds_2))) \Rightarrow \\ (\forall X1.(v1_int_1 X1) \Rightarrow (\forall X2.(m2_subset_1 X2 k1_numbers \\ k5_numbers) \Rightarrow (\forall X3.((\neg v1_xboole_0 X3) \wedge ((v1_relat_1 X3) \wedge \\ ((v4_relat_1 X3 k5_numbers) \wedge ((v5_relat_1 X3 (u1_compos_1 k1_scmpds_2)) \wedge \\ ((v1_funct_1 X3) \wedge ((v1_finset_1 X3) \wedge (v1_afinsq_1 X3)))))))) \Rightarrow \\ (k5_card_1 (k1_scmpds_7 X0 X1 X2 X3) = k2_nat_1 (k5_card_1 X3) np_3))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (3)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (4)$$

Assume the following.

$$(\neg v1_xboole_0 \ k4_ordinal1) \wedge (v3_ordinal1 \ k4_ordinal1) \quad (5)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v1_ami_2 \ X0) \wedge \\ & (m1_subset_1 \ X0 \ (u1_struct_0 \ k1_scmpds_2))) \wedge (v1_int_1 \ X1) \wedge \\ & ((m1_subset_1 \ X2 \ k5_numbers) \wedge (\neg v1_xboole_0 \ X3) \wedge ((v1_relat_1 \\ & X3) \wedge (v4_relat_1 \ X3 \ k5_numbers) \wedge (v5_relat_1 \ X3 \ (u1_compos_1 \\ & k1_scmpds_2)) \wedge (v1_funct_1 \ X3) \wedge (v1_finset_1 \ X3) \wedge (v1_afinsq_1 \\ & X3)))))) \Rightarrow ((\neg v1_xboole_0 \ (k1_scmpds_7 \ X0 \ X1 \ X2 \ X3)) \wedge ((v1_relat_1 \\ & (k1_scmpds_7 \ X0 \ X1 \ X2 \ X3)) \wedge (v4_relat_1 \ (k1_scmpds_7 \ X0 \ X1 \ X2 \ X3) \\ & k5_numbers) \wedge (v5_relat_1 \ (k1_scmpds_7 \ X0 \ X1 \ X2 \ X3) \ (u1_compos_1 \\ & k1_scmpds_2)) \wedge (v1_funct_1 \ (k1_scmpds_7 \ X0 \ X1 \ X2 \ X3)) \wedge (v1_finset_1 \\ & (k1_scmpds_7 \ X0 \ X1 \ X2 \ X3)) \wedge (v1_afinsq_1 \ (k1_scmpds_7 \ X0 \ X1 \ X2 \ X3)))))) \quad (7) \end{aligned}$$

Assume the following.

$$\forall X0. (m1_subset_1 \ X0 \ k4_ordinal1) \Rightarrow (v7_ordinal1 \ X0) \quad (8)$$

Assume the following.

$$\forall X0. (v1_xboole_0 \ X0) \Rightarrow (\forall X1. (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ X0)) \Rightarrow (v1_xboole_0 \ X1)) \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((v1_ami_2 \ X0) \wedge (m1_subset_1 \ X0 \ (u1_struct_0 \ k1_scmpds_2))) \Rightarrow \\ & (\forall X1. (v1_int_1 \ X1) \Rightarrow (\forall X2. (m2_subset_1 \ X2 \ k1_numbers \\ & k5_numbers) \Rightarrow (\forall X3. (m2_subset_1 \ X3 \ k1_numbers \ k5_numbers) \Rightarrow \\ & (\forall X4. ((\neg v1_xboole_0 \ X4) \wedge ((v1_relat_1 \ X4) \wedge ((v4_relat_1 \\ & X4 \ k5_numbers) \wedge (v5_relat_1 \ X4 \ (u1_compos_1 \ k1_scmpds_2)) \wedge \\ & (v1_funct_1 \ X4) \wedge (v1_finset_1 \ X4) \wedge (v1_afinsq_1 \ X4)))))) \Rightarrow (\\ & (\neg v1_xreal_0 \ (k2_nat_1 \ (k5_card_1 \ X4) \ np_3) \ X3) \Leftrightarrow (X3 \in k2_afinsq_1 \\ & (k1_scmpds_7 \ X0 \ X1 \ X2 \ X4)))))) \end{aligned}$$