

t44_supinf_2

(TMHV9nbvPYtnCzxFq5pEMPXgkeBVHEryB3p)

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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 $k12_supinf_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k18_supinf_2 : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k3_supinf_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k17_supinf_2 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v4_card_3 : \iota \Rightarrow o$ be given. Let $m1_supinf_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k15_supinf_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v1_funct_1 X2) \wedge \\ & ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))))) \wedge ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow ((r2_funct_2 X0 X1 X2 \\ & X3) \Leftrightarrow (X2 = X3)) \end{aligned} \tag{1}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v5_relat_1 X1 X0)) \Rightarrow (\\ & k2_relset_1 X0 X1 = k10_xtuple_0 X1) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k7_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k7_numbers)))))) \Rightarrow \\ & (k17_supinf_2 X0 = k10_xtuple_0 X0) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge ((v4_card_3 X0) \wedge (m1_subset_1 \\ & X0 (k1_zfmisc_1 k7_numbers)))) \Rightarrow (\forall X1.(m1_supinf_2 X1 X0) \Rightarrow \\ & ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers k7_numbers) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k7_numbers)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k7_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k7_numbers)))) \Rightarrow \\ & ((\neg v1_xboole_0 (k17_supinf_2 X0)) \wedge ((v4_card_3 (k17_supinf_2 \\ & X0)) \wedge (m1_subset_1 (k17_supinf_2 X0) (k1_zfmisc_1 k7_numbers)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v1_xboole_0 X0) \wedge ((v4_card_3 X0) \wedge \\ & m1_subset_1 X0 (k1_zfmisc_1 k7_numbers)))) \wedge (m1_supinf_2 X1 X0) \Rightarrow \\ & ((v1_funct_1 (k15_supinf_2 X0 X1)) \wedge ((v1_funct_2 (k15_supinf_2 \\ & X0 X1) k5_numbers k7_numbers) \wedge (m1_subset_1 (k15_supinf_2 X0 X1) \\ & (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k7_numbers)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k7_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k7_numbers)))) \Rightarrow \\ & (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers k7_numbers) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k7_numbers)))) \Rightarrow \\ & ((X1 = k18_supinf_2 X0) \Leftrightarrow (\forall X2.(m1_supinf_2 X2 (k17_supinf_2 \\ & X0)) \Rightarrow ((r2_funct_2 k5_numbers k7_numbers X2 X0) \Rightarrow (r2_funct_2 k5_numbers \\ & k7_numbers X1 (k15_supinf_2 (k17_supinf_2 X0) X2)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge ((v4_card_3 X0) \wedge (m1_subset_1 \\ & X0 (k1_zfmisc_1 k7_numbers)))) \Rightarrow (\forall X1.(m1_supinf_2 X1 X0) \Rightarrow \\ & (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 k5_numbers k7_numbers) \wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k7_numbers)))) \Rightarrow \\ & ((X2 = k15_supinf_2 X0 X1) \Leftrightarrow ((k12_supinf_2 X2 k6_numbers = k12_supinf_2 \\ & X1 k6_numbers) \wedge (\forall X3.(m2_subset_1 X3 k1_numbers k5_numbers) \Rightarrow \\ & (\forall X4.(m1_subset_1 X4 k7_numbers) \Rightarrow ((X4 = k12_supinf_2 X2 \\ & X3) \Rightarrow (k12_supinf_2 X2 (k2_nat_1 X3 np_1) = k3_supinf_2 X4 (k12_supinf_2 \\ & X1 (k2_nat_1 X3 np_1)))))))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge ((v4_card_3 X0) \wedge (m1_subset_1 \\ & X0 (k1_zfmisc_1 k7_numbers)))) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\ & ((v1_funct_2 X1 k5_numbers k7_numbers) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 k5_numbers k7_numbers)))))) \Rightarrow ((m1_supinf_2 X1 X0) \Leftrightarrow \\ & (X0 = k2_relset_1 k7_numbers X1)) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))) \Rightarrow ((v4_relat_1 X2 X0) \wedge (v5_relat_1 X2 X1)) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \end{aligned} \quad (12)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k7_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k7_numbers)))))) \Rightarrow \\ & ((k12_supinf_2 (k18_supinf_2 X0) k6_numbers = k12_supinf_2 X0 \\ & k6_numbers) \wedge (\forall X1. (m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow \\ & (\forall X2. (m1_subset_1 X2 k7_numbers) \Rightarrow ((X2 = k12_supinf_2 (\\ & k18_supinf_2 X0) X1) \Rightarrow (k12_supinf_2 (k18_supinf_2 X0) (k2_nat_1 \\ & X1 np_1) = k3_supinf_2 X2 (k12_supinf_2 X0 (k2_nat_1 X1 np_1))))))) \end{aligned}$$