

t12_nagata_1
(TMUL9uu8Bjnv8Ku3dEWP3WQZCmpt8ivUdpA)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. 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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_nagata_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_nagata_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_nagata_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_pcmps_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v5_card_3 : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k1_nagata_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_zfmisc_1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v4_card_3 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 \\ & (u1_struct_0 X0)))) \Rightarrow ((v1_nagata_1 X1 X0) \Rightarrow (v1_pcmps_1 X1 X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (2)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (3)$$

Assume the following.

$$v5_card_3 k4_ordinal1 \quad (4)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v2_pre_topc \\ & X0) \wedge (l1_pre_topc X0))) \wedge (((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers \\ & (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 X0)))) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k1_zfmisc_1 (k1_zfmisc_1 \\ & (u1_struct_0 X0)))))) \wedge (m1_subset_1 X2 k5_numbers))) \Rightarrow (m1_subset_1 \\ & (k1_nagata_1 X0 X1 X2) (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 \\ & X0)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers \\ & (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 X0)))) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k1_zfmisc_1 (k1_zfmisc_1 \\ & (u1_struct_0 X0)))))) \Rightarrow ((v3_nagata_1 X1 X0) \Leftrightarrow (\forall X2. (m2_subset_1 \\ & X2 k1_numbers k5_numbers) \Rightarrow (v1_pcomps_1 (k1_nagata_1 X0 X1 X2) \\ & X0)))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers \\ & (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 X0)))) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k1_zfmisc_1 (k1_zfmisc_1 \\ & (u1_struct_0 X0)))))) \Rightarrow ((v2_nagata_1 X1 X0) \Leftrightarrow (\forall X2. (m2_subset_1 \\ & X2 k1_numbers k5_numbers) \Rightarrow (v1_nagata_1 (k1_nagata_1 X0 X1 X2) \\ & X0)))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0. (v1_zfmisc_1 X0) \Rightarrow (v1_finset_1 X0) \quad (9)$$

Assume the following.

$$\forall X0. (v5_card_3 X0) \Rightarrow ((\neg v1_finset_1 X0) \wedge (v4_card_3 X0)) \quad (10)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (v1_zfmisc_1 X0) \quad (11)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (12)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers \\ & (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 X0)))) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k1_zfmisc_1 (k1_zfmisc_1 \\ & (u1_struct_0 X0)))))))))) \Rightarrow ((v2_nagata_1 X1 X0) \Rightarrow (v3_nagata_1 X1 \\ & X0))) \end{aligned}$$