

t8_yellow17

(TMGX6LJA2X9iHxX1byW84YmuVvCi6iqy1pT)

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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 $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_waybel_3 : \iota \Rightarrow o$ be given. Let $v1_waybel18 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_waybel18 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_waybel18 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_waybel18 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_pralg_1 : \iota \Rightarrow o$ be given. Let $k12_pralg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_relat_1 : \iota \Rightarrow o$ be given. Let $k4_card_3 : \iota \Rightarrow \iota$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $v1_monoid_0 : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $k12_card_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_tops_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_waybel18 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_cantor_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\ & (((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge ((v1_funct_1 X1) \wedge ((v1_partfun1 \\ & X1 X0) \wedge ((v4_waybel_3 X1) \wedge (v1_waybel18 X1)))))) \wedge ((m1_subset_1 \\ & X2 (u1_struct_0 (k3_waybel18 X0 X1))) \wedge (m1_subset_1 X3 X0))) \Rightarrow \\ & (k5_waybel18 X0 X1 X2 X3 = k1_funct_1 X2 X3) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge \\ & (v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge ((v2_pralg_1 X1) \wedge (v4_waybel_3 \\ & X1)))))) \Rightarrow ((v1_relat_1 (k12_pralg_1 X0 X1)) \wedge ((v2_relat_1 (k12_pralg_1 \\ & X0 X1)) \wedge ((v4_relat_1 (k12_pralg_1 X0 X1) X0) \wedge ((v1_funct_1 (k12_pralg_1 \\ & X0 X1)) \wedge (v1_partfun1 (k12_pralg_1 X0 X1) X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v2_relat_1 X0) \wedge (v1_funct_1 X0))) \Rightarrow (\neg v1_xboole_0 (k4_card_3 X0)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge (v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge ((v4_waybel_3 X1) \wedge (v1_waybel18 X1))))) \Rightarrow ((v1_pre_topc (k3_waybel18 X0 X1)) \wedge ((v2_pre_topc (k3_waybel18 X0 X1)) \wedge (v1_monoid_0 (k3_waybel18 X0 X1)))) \quad (5)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0) \Rightarrow (l1_struct_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge (v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge ((v4_waybel_3 X1) \wedge (v1_waybel18 X1))))) \Rightarrow ((v1_pre_topc (k3_waybel18 X0 X1)) \wedge ((v2_pre_topc (k3_waybel18 X0 X1)) \wedge (l1_pre_topc (k3_waybel18 X0 X1)))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge (v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge (v2_pralg_1 X1)))) \Rightarrow ((v1_relat_1 (k12_pralg_1 X0 X1)) \wedge ((v4_relat_1 (k12_pralg_1 X0 X1) X0) \wedge ((v1_funct_1 (k12_pralg_1 X0 X1)) \wedge (v1_partfun1 (k12_pralg_1 X0 X1) X0)))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_relat_1 (k12_card_3 X0 X1)) \wedge (v1_funct_1 (k12_card_3 X0 X1))) \quad (9)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0) \wedge ((v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge ((v4_waybel_3 X1) \wedge (v1_waybel18 X1))))) \Rightarrow (\forall X2.(m1_subset_1 X2 X0) \Rightarrow (k6_waybel18 X0 X1 X2 = k12_card_3 (k12_pralg_1 X0 X1) X2))) \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge \\ & (v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge ((v4_waybel_3 X1) \wedge (v1_waybel18 \\ & X1)))))) \Rightarrow (\forall X2. ((v1_pre_topc X2) \wedge ((v2_pre_topc X2) \wedge \\ & l1_pre_topc X2))) \Rightarrow ((X2 = k3_waybel18 X0 X1) \Leftrightarrow ((u1_struct_0 X2 = \\ & k4_card_3 (k12_pralg_1 X0 X1)) \wedge ((v1_tops_2 (k2_waybel18 X0 X1) \\ & X2) \wedge ((v2_cantor_1 (k2_waybel18 X0 X1) X2) \wedge (m1_subset_1 (k2_waybel18 \\ & X0 X1) (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 X2)))))))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. \forall X2. \\ & ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((X2 = k12_card_3 X0 X1) \Leftrightarrow ((\\ & k9_xtuple_0 X2 = k4_card_3 X0) \wedge (\forall X3. ((v1_relat_1 X3) \wedge (\\ & v1_funct_1 X3)) \Rightarrow ((X3 \in k9_xtuple_0 X2) \Rightarrow (k1_funct_1 X2 X3 = k1_funct_1 \\ & X3 X1)))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_waybel18 X0))) \Rightarrow \\ & ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v2_pralg_1 X0))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_monoid_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow ((v1_relat_1 X1) \wedge (v1_funct_1 \\ & X1))) \end{aligned} \quad (14)$$

Theorem 1

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge (\\ & (v4_relat_1 X1 X0) \wedge ((v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge ((v4_waybel_3 \\ & X1) \wedge (v1_waybel18 X1)))))) \Rightarrow (\forall X2. (m1_subset_1 X2 X0) \Rightarrow (\\ & \forall X3. (m1_subset_1 X3 (u1_struct_0 (k3_waybel18 X0 X1))) \Rightarrow \\ & (k1_funct_1 (k6_waybel18 X0 X1 X2) X3 = k5_waybel18 X0 X1 X3 X2)))) \end{aligned}$$