

t16_yellow17
(TMS6JqkfpzXveYgrau7fRGgCp5YWnDfiEUA)

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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 $k2_waybel18 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_waybel18 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_waybel18 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_waybel18 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_card_3 : \iota \Rightarrow \iota$ be given. Let $k2_funct_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_pralg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge \\ & (v4_relat_1 X1 X0) \wedge ((v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge ((v4_waybel_3 \\ & X1) \wedge (v1_waybel18 X1)))))) \Rightarrow (\forall X2. (m1_subset_1 X2 X0) \Rightarrow (\\ & \forall X3. (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 (k4_waybel18 \\ & X0 X1 X2)))) \Rightarrow (k8_relset_1 (u1_struct_0 (k3_waybel18 X0 X1)) (u1_struct_0 \\ & (k4_waybel18 X0 X1 X2)) (k6_waybel18 X0 X1 X2) X3 = k4_card_3 (k2_funct_7 \\ & (k12_pralg_1 X0 X1) X2 X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge (((v1_relat_1 \\ & X1) \wedge ((v4_relat_1 X1 X0) \wedge ((v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge \\ & ((v4_waybel_3 X1) \wedge (v1_waybel18 X1)))))) \wedge (m1_subset_1 X2 X0))) \Rightarrow \\ & (k4_waybel18 X0 X1 X2 = k1_funct_1 X1 X2) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge \\ & (v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge (v1_waybel18 X1)))) \Rightarrow (\\ & m1_subset_1 (k2_waybel18 X0 X1) (k1_zfmisc_1 (k1_zfmisc_1 (k4_card_3 \\ & (k12_pralg_1 X0 X1)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge (\\ & (v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge (v1_waybel18 X1)))))) \Rightarrow (\\ & \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k1_zfmisc_1 (k4_card_3 \\ & (k12_pralg_1 X0 X1)))))) \Rightarrow ((X2 = k2_waybel18 X0 X1) \Leftrightarrow (\forall X3. \\ & (m1_subset_1 X3 (k1_zfmisc_1 (k4_card_3 (k12_pralg_1 X0 X1)))))) \Rightarrow \\ & ((X3 \in X2) \Leftrightarrow (\exists X4. \exists X5. (l1_pre_topc X5) \wedge (\exists X6. \\ & (m1_subset_1 X6 (k1_zfmisc_1 (u1_struct_0 X5)))) \wedge ((X4 \in X0) \wedge (\\ & v3_pre_topc X6 X5) \wedge ((X5 = k1_funct_1 X1 X4) \wedge (X3 = k4_card_3 (k2_funct_7 \\ & (k12_pralg_1 X0 X1) X4 X6)))))))))) \end{aligned} \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge (\\ & (v4_relat_1 X1 X0) \wedge ((v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge ((v4_waybel_3 \\ & X1) \wedge (v1_waybel18 X1)))))) \Rightarrow (\forall X2. \neg (X2 \in k2_waybel18 X0 X1) \wedge \\ & (\forall X3. (m1_subset_1 X3 X0) \Rightarrow (\forall X4. (m1_subset_1 X4 (\\ & k1_zfmisc_1 (u1_struct_0 (k4_waybel18 X0 X1 X3)))) \Rightarrow (\neg (v3_pre_topc \\ & X4 (k4_waybel18 X0 X1 X3)) \wedge (k8_relset_1 (u1_struct_0 (k3_waybel18 \\ & X0 X1) (u1_struct_0 (k4_waybel18 X0 X1 X3)) (k6_waybel18 X0 X1 X3) \\ & X4 = X2)))))) \end{aligned}$$