

t24_ens_1 (TMTTnfK-
MgD6D9zwWC3yQRy2cYUDUZJsfVPH)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_ens_1 : \iota \Rightarrow \iota$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k11_ens_1 : \iota \Rightarrow \iota$ 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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g1_cat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_ens_1 : \iota \Rightarrow \iota$ be given. Let $k8_ens_1 : \iota \Rightarrow \iota$ be given. Let $k10_ens_1 : \iota \Rightarrow \iota$ be given. Let $v1_cat_1 : \iota \Rightarrow o$ be given. Let $l1_cat_1 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_graph_1 : \iota \Rightarrow \iota$ be given. Let $u2_graph_1 : \iota \Rightarrow \iota$ be given. Let $u1_cat_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. (((v1_funct_1 \\ & X2) \wedge ((v1_funct_2 X2 X1 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X1 X0)))))) \wedge (((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X1 X0) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 X1 X0)))))) \wedge ((v1_funct_1 X4) \wedge (m1_subset_1 \\ & X4 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X1 X1) X1)))))) \Rightarrow (\forall X5. \\ & \forall X6. \forall X7. \forall X8. \forall X9. (g1_cat_1 X0 X1 X2 \\ & X3 X4 = g1_cat_1 X5 X6 X7 X8 X9) \Rightarrow ((X0 = X5) \wedge ((X1 = X6) \wedge ((X2 = X7) \wedge ((X3 = \\ & X8) \wedge (X4 = X9)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow ((v1_funct_1 (k9_ens_1 X0)) \wedge ((\\ & v1_funct_2 (k9_ens_1 X0) (k2_ens_1 X0) X0) \wedge (m1_subset_1 (k9_ens_1 \\ & X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_ens_1 X0) X0)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow ((v1_funct_1 (k8_ens_1 X0)) \wedge ((\\ & v1_funct_2 (k8_ens_1 X0) (k2_ens_1 X0) X0) \wedge (m1_subset_1 (k8_ens_1 \\ & X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_ens_1 X0) X0)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow ((v1_funct_1 (k10_ens_1 X0)) \wedge (m1_subset_1 (k10_ens_1 X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k2_ens_1 X0) (k2_ens_1 X0)) (k2_ens_1 X0)))))) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. \forall X4. (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X1 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 X0)))))) \wedge (((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X1 X0) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X1 X0)))))) \wedge ((v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X1 X1) X1)))))) \Rightarrow ((v1_cat_1 (g1_cat_1 X0 X1 X2 X3 X4)) \wedge (l1_cat_1 (g1_cat_1 X0 X1 X2 X3 X4))) \quad (5)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow (k11_ens_1 X0 = g1_cat_1 X0 (k2_ens_1 X0) (k8_ens_1 X0) (k9_ens_1 X0) (k10_ens_1 X0)) \quad (6)$$

Assume the following.

$$\forall X0.(l1_cat_1 X0) \Rightarrow ((v1_cat_1 X0) \Rightarrow (X0 = g1_cat_1 (u1_struct_0 X0) (u4_struct_0 X0) (u1_graph_1 X0) (u2_graph_1 X0) (u1_cat_1 X0))) \quad (7)$$

Theorem 1

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k2_ens_1 X0)) \Rightarrow (m1_subset_1 X1 (u4_struct_0 (k11_ens_1 X0))))$$