

t37_yellow18

(TMEvXye7qK18RKPqpkWXjEd8SEppmYycH8b)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_altcat_1 : \iota \Rightarrow o$ be given. Let $v9_altcat_1 : \iota \Rightarrow o$ be given. Let $v11_altcat_1 : \iota \Rightarrow o$ be given. Let $v12_altcat_1 : \iota \Rightarrow o$ be given. Let $v2_yellow18 : \iota \Rightarrow o$ be given. Let $l2_altcat_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_partfun1 : \iota \Rightarrow \iota$ be given. Let $k3_yellow18 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_altcat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_altcat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_relat_1 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k5_altcat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (k3_relat_1 (k4_relat_1 (k9_xtuple_0 X0)) X0 = X0) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_altcat_1 X0) \wedge ((v9_altcat_1 X0) \wedge ((v11_altcat_1 X0) \wedge ((v12_altcat_1 X0) \wedge ((v2_yellow18 X0) \wedge (l2_altcat_1 X0))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\neg(k1_altcat_1 X0 X1 X2 \neq k1_xboole_0) \wedge ((k1_altcat_1 X0 X2 X3 \neq k1_xboole_0) \wedge (\neg \forall X4.(m1_subset_1 X4 (k1_altcat_1 X0 X1 X2)) \Rightarrow (\forall X5.(m1_subset_1 X5 (k1_altcat_1 X0 X2 X3)) \Rightarrow (k5_altcat_1 X0 X1 X2 X3 X4 X5 = k3_relat_1 X4 X5)))))))))) \quad (2) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_altcat_1 X0) \wedge ((v11_altcat_1 X0) \wedge ((v12_altcat_1 X0) \wedge ((v2_yellow18 X0) \wedge (l2_altcat_1 X0))))))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((k1_altcat_1 X0 X1 X2 \neq k1_xboole_0) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (k1_altcat_1 X0 X1 X2)) \Rightarrow ((k9_xtuple_0 X3 = k3_yellow18 X0 X1) \wedge (r1_tarski (k10_xtuple_0 X3) (k3_yellow18 X0 X2))))))) \quad (3) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (4)$$

Assume the following.

$$\forall X0.k6_partfun1 X0 = k4_relat_1 X0 \quad (5)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2_struct_0 X0) \wedge ((v12_altcat_1 X0) \wedge \\ (l2_altcat_1 X0))) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (\neg v1_xboole_0 \\ (k1_altcat_1 X0 X1 X1)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2_struct_0 X0) \wedge ((v12_altcat_1 X0) \wedge \\ (l2_altcat_1 X0))) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (m1_subset_1 \\ (k8_altcat_1 X0 X1) (k1_altcat_1 X0 X1 X1)) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.v1_relat_1 (k3_relat_1 X0 X1) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.(((\neg v2_struct_0 X0) \wedge ((v12_altcat_1 X0) \wedge (l2_altcat_1 \\ X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (k1_altcat_1 X0 X1 X1)) \Rightarrow ((X2 = k8_altcat_1 X0 X1) \Leftrightarrow \\ (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((k1_altcat_1 \\ X0 X1 X3 \neq k1_xboole_0) \Rightarrow (\forall X4.(m1_subset_1 X4 (k1_altcat_1 \\ X0 X1 X3)) \Rightarrow (k5_altcat_1 X0 X1 X1 X3 X2 X4 = X4))))))) \end{aligned} \quad (10)$$

Theorem 1

$$\begin{aligned} \forall X0.(((\neg v2_struct_0 X0) \wedge ((v2_altcat_1 X0) \wedge ((v9_altcat_1 \\ X0) \wedge ((v11_altcat_1 X0) \wedge ((v12_altcat_1 X0) \wedge ((v2_yellow18 X0) \wedge \\ (l2_altcat_1 X0))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ X0)) \Rightarrow ((k6_partfun1 (k3_yellow18 X0 X1) \in k1_altcat_1 X0 X1 X1) \Rightarrow \\ (k8_altcat_1 X0 X1 = k6_partfun1 (k3_yellow18 X0 X1)))) \end{aligned}$$