

t35_altcat_4

(TMJHVVTZjeQoYrvcnqgQe53VLX5JfrNeRSHJ)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v12_altcat_1 : \iota \Rightarrow o$ be given. Let $l2_altcat_1 : \iota \Rightarrow o$ be given. Let $m1_altcat_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_altcat_1 : \iota \Rightarrow \iota$ be given. Let $v3_altcat_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_altcat_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ 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. Assume the following.

$$\begin{aligned} & \forall X0.(l2_altcat_1 X0) \Rightarrow (\forall X1.(m1_altcat_2 X1 X0) \Rightarrow \\ & (((u1_struct_0 X0 = u1_struct_0 X1) \wedge (u1_altcat_1 X0 = u1_altcat_1 \\ & X1)) \Rightarrow (v2_altcat_2 X1 X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l2_altcat_1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge (m1_altcat_2 X1 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X1)) \Rightarrow (m1_subset_1 X2 (u1_struct_0 X0)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l2_altcat_1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge ((v2_altcat_2 X1 X0) \wedge (m1_altcat_2 X1 X0))) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 \\ & X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 \\ & X1)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X1)) \Rightarrow (((X2 = X4) \wedge \\ & (X3 = X5)) \Rightarrow (k1_altcat_1 X0 X2 X3 = k1_altcat_1 X1 X4 X5))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v12_altcat_1 X0) \wedge (l2_altcat_1 \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k8_altcat_1 \\ & X0 X1 \in k1_altcat_1 X0 X1 X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v12_altcat_1 X0) \wedge (l2_altcat_1 \\
& X0))) \Rightarrow (\forall X1.(m1_altcat_2 X1 X0) \Rightarrow (((\neg v2_struct_0 X1) \Rightarrow (\\
& v3_altcat_2 X1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\
& X1)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((X2 = X3) \Rightarrow \\
& (k8_altcat_1 X0 X3 \in k1_altcat_1 X1 X2 X2)))))) \wedge ((v2_struct_0 X1) \Rightarrow \\
& (v3_altcat_2 X1 X0)))
\end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v12_altcat_1 X0) \wedge (l2_altcat_1 \\
& X0))) \Rightarrow (\forall X1.(m1_altcat_2 X1 X0) \Rightarrow (((u1_struct_0 X0 = u1_struct_0 \\
& X1) \wedge (u1_altcat_1 X0 = u1_altcat_1 X1)) \Rightarrow (v3_altcat_2 X1 X0)))
\end{aligned}$$