

t23_yellow20

(TMQLmwFkVHKSc46quNwVT3Fe5BNAHM4CUwP)

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Let $l2_altcat_1 : \iota \Rightarrow o$ be given. Let $r1_yellow20 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k2_yellow20 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_altcat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(l2_altcat_1 X0) \Rightarrow (\forall X1.(l2_altcat_1 X1) \Rightarrow ((\\ r1_yellow20 X0 X1) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow \\ (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 \\ X4 (u1_struct_0 X1)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 \\ X1)) \Rightarrow (\forall X6.(m1_subset_1 X6 (u1_struct_0 (k2_yellow20 X0 \\ X1))) \Rightarrow (\forall X7.(m1_subset_1 X7 (u1_struct_0 (k2_yellow20 \\ X0 X1))) \Rightarrow (((X6 = X2) \wedge ((X6 = X4) \wedge ((X7 = X3) \wedge (X7 = X5)))))) \Rightarrow (k1_altcat_1 \\ (k2_yellow20 X0 X1) X6 X7 = k3_xboole_0 (k1_altcat_1 X0 X2 X3) (k1_altcat_1 \\ X1 X4 X5)))))))))) \quad (3) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k3_xboole_0 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (X3 \in X1))) \quad (4)$$

Theorem 1

$$\begin{aligned} & \forall X0.(l2_altcat_1 X0) \Rightarrow (\forall X1.(l2_altcat_1 X1) \Rightarrow ((\\ & r1_yellow20 X0 X1) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow \\ & (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 \\ & X4 (u1_struct_0 X1)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 \\ & X1)) \Rightarrow (\forall X6.(m1_subset_1 X6 (u1_struct_0 (k2_yellow20 X0 \\ & X1))) \Rightarrow (\forall X7.(m1_subset_1 X7 (u1_struct_0 (k2_yellow20 \\ X0 X1))) \Rightarrow (((X6 = X2) \wedge ((X6 = X4) \wedge ((X7 = X3) \wedge (X7 = X5)))))) \Rightarrow ((k1_altcat_1 \\ X0 X2 X3 = k1_xboole_0) \vee ((k1_altcat_1 X1 X4 X5 = k1_xboole_0) \vee (\forall X8. \\ (m1_subset_1 X8 (k1_altcat_1 X0 X2 X3)) \Rightarrow (\forall X9.(m1_subset_1 \\ X9 (k1_altcat_1 X1 X4 X5)) \Rightarrow ((X8 = X9) \Rightarrow (X8 \in k1_altcat_1 (k2_yellow20 \\ X0 X1) X6 X7)))))))))))))) \end{aligned}$$