

t25_functor0
(TMFFT5Wu56Xju3L4EsSP8qBejfc61WJ7Bm5)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_altcat_1 : \iota \Rightarrow o$ be given. Let $v1_altcat_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_altcat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v8_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v10_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l2_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k6_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_altcat_1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge (l1_altcat_1 X1)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X1)) \Rightarrow ((k1_altcat_1 X1 X2 X2 \neq k1_xboole_0) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (k1_altcat_1 X1 X2 X2)) \Rightarrow (\forall X4.(m1_subset_1 \\ & X4 (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X6.(m1_subset_1 X6 (k1_altcat_1 X0 X4 X5)) \Rightarrow ((k1_altcat_1 \\ & X0 X4 X5 \neq k1_xboole_0) \Rightarrow (k1_funct_1 (k4_functor0 X0 X1 (k9_functor0 \\ & X0 X1 X2 X3) X4 X5) X6 = X3)))))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. (((\neg v2_struct_0 \\ & X0) \wedge (l1_altcat_1 X0)) \wedge (((\neg v2_struct_0 X1) \wedge (l1_altcat_1 X1)) \wedge \\ & (((v10_functor0 X2 X0 X1) \wedge (l2_functor0 X2 X0 X1)) \wedge ((m1_subset_1 \\ & X3 (u1_struct_0 X0)) \wedge (m1_subset_1 X4 (u1_struct_0 X0)))))) \Rightarrow (\\ & k5_functor0 X0 X1 X2 X3 X4 = k4_functor0 X0 X1 X2 X3 X4) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_altcat_1 X0)) \Rightarrow ((v1_altcat_2 \\ & X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k1_altcat_1 \\ & X0 X1 X1 \neq k1_xboole_0))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_altcat_1 X0)) \Rightarrow (\forall X1. \\
& ((\neg v2_struct_0 X1) \wedge (l1_altcat_1 X1)) \Rightarrow (\forall X2.((v10_functor0 \\
& X2 X0 X1) \wedge (l2_functor0 X2 X0 X1)) \Rightarrow ((v8_functor0 X2 X0 X1) \Leftrightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
& (u1_struct_0 X0)) \Rightarrow (\neg(k1_altcat_1 X0 X3 X4 \neq k1_xboole_0) \wedge (k1_altcat_1 \\
& X1 (k3_functor0 X0 X1 X2 X3) (k3_functor0 X0 X1 X2 X4) = k1_xboole_0))))))))) \\
& \tag{4}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_altcat_1 X0)) \Rightarrow (\forall X1. \\
& ((\neg v2_struct_0 X1) \wedge (l1_altcat_1 X1)) \Rightarrow (\forall X2.((v10_functor0 \\
& X2 X0 X1) \wedge (l2_functor0 X2 X0 X1)) \Rightarrow (\forall X3.(m1_subset_1 X3 (\\
& u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\
& (\neg(k1_altcat_1 X0 X3 X4 \neq k1_xboole_0) \wedge ((k1_altcat_1 X1 (k3_functor0 \\
& X0 X1 X2 X3) (k3_functor0 X0 X1 X2 X4) \neq k1_xboole_0) \wedge (\neg \forall X5. \\
& (m1_subset_1 X5 (k1_altcat_1 X0 X3 X4)) \Rightarrow (k6_functor0 X0 X1 X2 X3 \\
& X4 X5 = k1_funct_1 (k5_functor0 X0 X1 X2 X3 X4) X5))))))))) \\
& \tag{5}
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_altcat_1 X0)) \Rightarrow (\forall X1. \\
& ((\neg v2_struct_0 X1) \wedge ((v1_altcat_2 X1) \wedge (l1_altcat_1 X1))) \Rightarrow (\forall X2. \\
& (m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& (k1_altcat_1 X1 X2 X2)) \Rightarrow (\forall X4.((v8_functor0 X4 X0 X1) \wedge ((\\
& v10_functor0 X4 X0 X1) \wedge (l2_functor0 X4 X0 X1))) \Rightarrow ((X4 = k9_functor0 \\
& X0 X1 X2 X3) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\forall X6. \\
& (m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (\forall X7.(m1_subset_1 X7 \\
& (k1_altcat_1 X0 X5 X6)) \Rightarrow ((k1_altcat_1 X0 X5 X6 \neq k1_xboole_0) \Rightarrow (\\
& k6_functor0 X0 X1 X4 X5 X6 X7 = X3))))))))) \\
& \tag{6}
\end{aligned}$$