

t2_functor2 (TMbKXEXjzs- paY53A93CKnUbfyVqZCHrQUHu)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_altcat_1 : \iota \Rightarrow o$ be given. Let $v12_altcat_1 : \iota \Rightarrow o$ be given. Let $l2_altcat_1 : \iota \Rightarrow o$ be given. Let $m2_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_functor2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l2_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_altcat_1 : \iota \Rightarrow o$ be given. Let $l1_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_altcat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v2_altcat_1 X0) \wedge \\ & ((v12_altcat_1 X0) \wedge (l2_altcat_1 X0)))) \wedge ((\neg v2_struct_0 X1) \wedge \\ & ((v12_altcat_1 X1) \wedge (l2_altcat_1 X1)))) \Rightarrow (\forall X2. (m2_functor0 \\ & X2 X0 X1) \Rightarrow (l2_functor0 X2 X0 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((l1_altcat_1 X0) \wedge (l1_altcat_1 X1)) \Rightarrow (\\ & \forall X2. (l2_functor0 X2 X0 X1) \Rightarrow (l1_functor0 X2 X0 X1)) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. (l2_altcat_1 X0) \Rightarrow (l1_altcat_1 X0) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v2_struct_0 \\ & X0) \wedge (l1_altcat_1 X0)) \wedge (((\neg v2_struct_0 X1) \wedge (l1_altcat_1 X1)) \wedge \\ & ((l1_functor0 X2 X0 X1) \wedge (m1_subset_1 X3 (u1_struct_0 X0)))) \Rightarrow \\ & (m1_subset_1 (k3_functor0 X0 X1 X2 X3) (u1_struct_0 X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1_altcat_1 X0) \Rightarrow ((v2_altcat_1 X0) \Leftrightarrow (\forall X1. (\\ & m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 \\ & (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow \\ & (\neg (k1_altcat_1 X0 X1 X2 \neq k1_xboole_0) \wedge ((k1_altcat_1 X0 X2 X3 \neq k1_xboole_0) \wedge \\ & (k1_altcat_1 X0 X1 X3 = k1_xboole_0)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_altcat_1 X0) \wedge ((v12_altcat_1 \\
& X0) \wedge (l2_altcat_1 X0)))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v2_altcat_1 \\
& X1) \wedge ((v12_altcat_1 X1) \wedge (l2_altcat_1 X1)))) \Rightarrow (\forall X2.(m2_functor0 \\
& X2 X0 X1) \Rightarrow (\forall X3.(m2_functor0 X3 X0 X1) \Rightarrow ((r1_functor2 X0 X1 \\
& X2 X3) \Leftrightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (k1_altcat_1 \\
& X1 (k3_functor0 X0 X1 X2 X4) (k3_functor0 X0 X1 X3 X4) \neq k1_xboole_0)))))) \\
& \hspace{15em} (6)
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_altcat_1 X0) \wedge ((v12_altcat_1 \\
& X0) \wedge (l2_altcat_1 X0)))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v2_altcat_1 \\
& X1) \wedge ((v12_altcat_1 X1) \wedge (l2_altcat_1 X1)))) \Rightarrow (\forall X2.(m2_functor0 \\
& X2 X0 X1) \Rightarrow (\forall X3.(m2_functor0 X3 X0 X1) \Rightarrow (\forall X4.(m2_functor0 \\
& X4 X0 X1) \Rightarrow (((r1_functor2 X0 X1 X2 X3) \wedge (r1_functor2 X0 X1 X3 X4)) \Rightarrow \\
& (r1_functor2 X0 X1 X2 X4))))))
\end{aligned}$$