

t11_functor1

(TMTQ3kasDoEiEX1aYuDXH5PKJqjWRvY9Mvj)

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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 $v8_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l2_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v20_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k13_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v18_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v9_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_altcat_1 X0)) \Rightarrow (\forall X1. \\
 & ((\neg v2_struct_0 X1) \wedge ((v1_altcat_2 X1) \wedge (l1_altcat_1 X1))) \Rightarrow (\forall X2. \\
 & ((\neg v2_struct_0 X2) \wedge ((v1_altcat_2 X2) \wedge (l1_altcat_1 X2)))) \Rightarrow (\forall X3. \\
 & ((v8_functor0 X3 X0 X1) \wedge (l2_functor0 X3 X0 X1)) \Rightarrow (\forall X4. (l2_functor0 \\
 & X4 X1 X2) \Rightarrow (((v18_functor0 X3 X0 X1) \wedge (v18_functor0 X4 X1 X2)) \Rightarrow (v18_functor0 \\
 & (k13_functor0 X0 X1 X2 X3 X4) X0 X2))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_altcat_1 X0)) \Rightarrow (\forall X1. \\
 & ((\neg v2_struct_0 X1) \wedge ((v1_altcat_2 X1) \wedge (l1_altcat_1 X1))) \Rightarrow (\forall X2. \\
 & ((\neg v2_struct_0 X2) \wedge ((v1_altcat_2 X2) \wedge (l1_altcat_1 X2)))) \Rightarrow (\forall X3. \\
 & ((v8_functor0 X3 X0 X1) \wedge (l2_functor0 X3 X0 X1)) \Rightarrow (\forall X4. (l2_functor0 \\
 & X4 X1 X2) \Rightarrow (((v5_functor0 X3 X0 X1) \wedge (v5_functor0 X4 X1 X2)) \Rightarrow (v5_functor0 \\
 & (k13_functor0 X0 X1 X2 X3 X4) X0 X2))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. (((\neg v2_struct_0 \\
 & X0) \wedge (l1_altcat_1 X0)) \wedge (((\neg v2_struct_0 X1) \wedge ((v1_altcat_2 X1) \wedge \\
 & (l1_altcat_1 X1))) \wedge (((\neg v2_struct_0 X2) \wedge ((v1_altcat_2 X2) \wedge \\
 & l1_altcat_1 X2)))) \wedge (((v8_functor0 X3 X0 X1) \wedge (l2_functor0 X3 X0 \\
 & X1) \wedge (l2_functor0 X4 X1 X2)))) \Rightarrow ((v9_functor0 (k13_functor0 \\
 & X0 X1 X2 X3 X4) X0 X2) \wedge (l2_functor0 (k13_functor0 X0 X1 X2 X3 X4) X0 \\
 & X2))
 \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_altcat_1 X0) \Rightarrow (\forall X1.(l1_altcat_1 X1) \Rightarrow (\forall X2. \\ & (l2_functor0 X2 X0 X1) \Rightarrow ((v20_functor0 X2 X0 X1) \Leftrightarrow ((v18_functor0 \\ & X2 X0 X1) \wedge (v5_functor0 X2 X0 X1)))))) \end{aligned} \quad (4)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_altcat_1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge ((v1_altcat_2 X1) \wedge (l1_altcat_1 X1))) \Rightarrow (\forall X2. \\ & ((\neg v2_struct_0 X2) \wedge ((v1_altcat_2 X2) \wedge (l1_altcat_1 X2))) \Rightarrow (\forall X3. \\ & ((v8_functor0 X3 X0 X1) \wedge (l2_functor0 X3 X0 X1)) \Rightarrow (\forall X4.(l2_functor0 \\ & X4 X1 X2) \Rightarrow (((v20_functor0 X3 X0 X1) \wedge (v20_functor0 X4 X1 X2)) \Rightarrow (v20_functor0 \\ & (k13_functor0 X0 X1 X2 X3 X4) X0 X2)))))) \end{aligned}$$