

t27_functor0

(TMYSQtAcZMzejS6TtjMHgSmGHESrRuyJte1)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l2_altcat_1 : \iota \Rightarrow o$ be given. Let $m1_altcat_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_functor0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_relat_1 : \iota \Rightarrow \iota$ be given. Let $k6_partfun1 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l1_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_altcat_1 : \iota \Rightarrow o$ be given. Let $l2_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v9_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $r6_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u2_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_msualg_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_altcat_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(k4_tarski X0 X1 \in k2_zfmisc_1 X2 X3) \Leftrightarrow ((X0 \in X2) \wedge (X1 \in X3)) \quad (1)$$

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.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (k1_funct_1 (k4_relat_1 X1) X0 = X0) \quad (3)$$

Assume the following.

$$\forall X0.k6_partfun1 X0 = k4_relat_1 X0 \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & ((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(((v1_funct_1 X3)\wedge(\\ & v1_funct_2 X3 (k2_zfmisc_1 X0 X1) X2)\wedge(m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X1) X2))))))\wedge((m1_subset_1 X4 X0)\wedge \\ & (m1_subset_1 X5 X1))))\Rightarrow(k2_binop_1 X0 X1 X2 X3 X4 X5 = k1_binop_1 \\ & X3 X4 X5) \end{aligned} \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.k1_xtuple_0 (k4_tarSKI X0 X1) = X0 \tag{6}$$

Assume the following.

$$\forall X0.(v1_relat_1 (k4_relat_1 X0))\wedge(v1_funct_1 (k4_relat_1 X0)) \tag{7}$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_struct_0 X0))\Rightarrow(\neg v1_xboole_0 (u1_struct_0 X0)) \tag{8}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((l1_struct_0 X0)\wedge((l1_struct_0 \\ & X1)\wedge(l1_functor0 X2 X0 X1)))\Rightarrow((v1_funct_1 (u1_functor0 X0 X1 X2))\wedge \\ & ((v1_funct_2 (u1_functor0 X0 X1 X2) (k2_zfmisc_1 (u1_struct_0 \\ & X0) (u1_struct_0 X0)) (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 \\ & X1)))\wedge(m1_subset_1 (u1_functor0 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (k2_zfmisc_1 \\ & (u1_struct_0 X1) (u1_struct_0 X1)))))) \end{aligned} \tag{9}$$

Assume the following.

$$\forall X0.(l2_altcat_1 X0)\Rightarrow(\forall X1.(m1_altcat_2 X1 X0)\Rightarrow (l2_altcat_1 X1)) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.((l1_altcat_1 X0)\wedge(l1_altcat_1 X1))\Rightarrow(\forall X2.(l2_functor0 X2 X0 X1)\Rightarrow(l1_functor0 X2 X0 X1)) \tag{11}$$

Assume the following.

$$\forall X0.(l2_altcat_1 X0)\Rightarrow(l1_altcat_1 X0) \tag{12}$$

Assume the following.

$$\forall X0.(l1_altcat_1 X0)\Rightarrow(l1_struct_0 X0) \tag{13}$$

Assume the following.

$$\forall X0.v1_relat_1 (k4_relat_1 X0) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((l2_altcat_1 X0)\wedge(m1_altcat_2 X1 X0))\Rightarrow \\ & ((v9_functor0 (k10_functor0 X0 X1) X1 X0)\wedge(l2_functor0 (k10_functor0 \\ & X0 X1) X1 X0)) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.k4_tarski X0 X1 = k2_tarski (k2_tarski X0 X1) (k1_tarski X0) \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge(l1_altcat_1 X0))\Rightarrow(\forall X1. \\ & ((\neg v2_struct_0 X1)\wedge(l1_altcat_1 X1))\Rightarrow(\forall X2.(l1_functor0 \\ & X2 X0 X1)\Rightarrow(\forall X3.(m1_subset_1 X3 (u1_struct_0 X0))\Rightarrow(k3_functor0 \\ & X0 X1 X2 X3 = k1_xtuple_0 (k2_binop_1 (u1_struct_0 X0) (u1_struct_0 \\ & X0) (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X1)) (u1_functor0 \\ & X0 X1 X2) X3 X3)))))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l2_altcat_1 X0)\Rightarrow(\forall X1.(m1_altcat_2 X1 X0)\Rightarrow \\ & (\forall X2.((v9_functor0 X2 X1 X0)\wedge(l2_functor0 X2 X1 X0))\Rightarrow((\\ & X2 = k10_functor0 X0 X1)\Leftrightarrow((u1_functor0 X1 X0 X2 = k6_partfun1 (k2_zfmisc_1 \\ & (u1_struct_0 X1) (u1_struct_0 X1)))\wedge(r6_pboole (k2_zfmisc_1 \\ & (u1_struct_0 X1) (u1_struct_0 X1)) (u2_functor0 X1 X0 X2) (k2_msualg_3 \\ & (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X1)) (u1_altcat_1 \\ & X1))))))))) \end{aligned} \quad (18)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge(v1_funct_1 X0))\Rightarrow(\forall X1.\forall X2. k1_binop_1 X0 X1 X2 = k1_funct_1 X0 (k4_tarski X1 X2)) \quad (19)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge(l2_altcat_1 X0))\Rightarrow(\forall X1. \\ & ((\neg v2_struct_0 X1)\wedge(m1_altcat_2 X1 X0))\Rightarrow(\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X1))\Rightarrow(k3_functor0 X1 X0 (k10_functor0 X0 X1) X2 = \\ & X2))) \end{aligned}$$