t19_waybel34 (TMXd5pf6iS56sUob1pytjp9HPkoSiHTfd6o)

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Let $v2\_setfam\_1 : \iota \Rightarrow o$ be given. Let $k13\_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_waybel34 : \iota \Rightarrow \iota$ be given. Let $k4\_waybel34 : \iota \Rightarrow \iota$ be given. Let $k7\_waybel34 : \iota \Rightarrow \iota$ be given. Let $k6\_waybel34 : \iota \Rightarrow \iota$ be given. Let $k12\_functor0 : \iota \Rightarrow \iota$ be given. Let $k15\_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. 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 $v1\_altcat\_2 : \iota \Rightarrow o$ be given. Let $l2\_altcat\_1 : \iota \Rightarrow o$ 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 $v21\_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $g2\_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2\_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v9\_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v16\_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2\_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1\_altcat\_1 : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v6\_altcat\_1 : \iota \Rightarrow o$ be given. Let $v11\_altcat\_1 : \iota \Rightarrow o$ be given. Let $v2\_yellow21 : \iota \Rightarrow o$ be given. Let $v12\_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(\neg v2\_setfam\_1\ X0) \Rightarrow ((k15\_functor0\ (k4\_waybel34\ X0)\ (k5\_waybel34\ X0)\ (k6\_waybel34\ X0) = k7\_waybel34\ X0) \wedge (k15\_functor0\ (k5\_waybel34\ X0)\ (k4\_waybel34\ X0)\ (k7\_waybel34\ X0) = k6\_waybel34\ X0)) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_altcat\_1\ X0) \wedge ((v12\_altcat\_1\ X0) \wedge ((v1\_altcat\_2\ X0) \wedge (l2\_altcat\_1\ X0))))) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge ((v2\_altcat\_1\ X1) \wedge ((v12\_altcat\_1\ X1) \wedge ((v1\_altcat\_2\ X1) \wedge (l2\_altcat\_1\ X1))))) \Rightarrow (\forall X2.((v8\_functor0\ X2\ X0\ X1) \wedge (l2\_functor0\ X2\ X0\ X1)) \Rightarrow ((v21\_functor0\ X2\ X0\ X1) \Rightarrow (\forall X3.((v8\_functor0\ X3\ X1\ X0) \wedge (l2\_functor0\ X3\ X1\ X0)) \Rightarrow ((g2\_functor0\ X1\ X0\ (u1\_functor0\ X1\ X0\ X3)\ (u2\_functor0\ X1\ X0\ X3) = k15\_functor0\ X0\ X1\ X2) \Rightarrow (k13\_functor0\ X1\ X0\ X1\ X3\ X2 = k12\_functor0\ X1)))))) \tag{2}$$

Assume the following.

$$\forall X0.(\neg v2\_setfam\_1\ X0)\Rightarrow((v9\_functor0\ (k7\_waybel34\ X0)\ (k5\_waybel34\ X0)\ (k4\_waybel34\ X0))\wedge((v16\_functor0\ (k7\_waybel34\ X0)\ (k5\_waybel34\ X0)\ (k4\_waybel34\ X0))\wedge(v21\_functor0\ (k7\_waybel34\ X0)\ (k5\_waybel34\ X0)\ (k4\_waybel34\ X0)))) \tag{3}$$

Assume the following.

$$\forall X0.(\neg v2\_setfam\_1\ X0)\Rightarrow((v9\_functor0\ (k6\_waybel34\ X0)\ (k4\_waybel34\ X0)\ (k5\_waybel34\ X0))\wedge((v16\_functor0\ (k6\_waybel34\ X0)\ (k4\_waybel34\ X0)\ (k5\_waybel34\ X0))\wedge(v21\_functor0\ (k6\_waybel34\ X0)\ (k4\_waybel34\ X0)\ (k5\_waybel34\ X0)))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v2\_altcat\_1\ X0)\wedge((v12\_altcat\_1\ X0)\wedge(l2\_altcat\_1\ X0))))\wedge((\neg v2\_struct\_0\ X1)\wedge((v12\_altcat\_1\ X1)\wedge(l2\_altcat\_1\ X1))))\Rightarrow(\forall X2.(m2\_functor0\ X2\ X0\ X1)\Rightarrow(l2\_functor0\ X2\ X0\ X1)) \tag{5}$$

Assume the following.

$$\forall X0.(l2\_altcat\_1\ X0)\Rightarrow(l1\_altcat\_1\ X0) \tag{6}$$

Assume the following.

$$\forall X0.(\neg v2\_setfam\_1\ X0)\Rightarrow((v9\_functor0\ (k7\_waybel34\ X0)\ (k5\_waybel34\ X0)\ (k4\_waybel34\ X0))\wedge((v16\_functor0\ (k7\_waybel34\ X0)\ (k5\_waybel34\ X0)\ (k4\_waybel34\ X0))\wedge(m2\_functor0\ (k7\_waybel34\ X0)\ (k5\_waybel34\ X0)\ (k4\_waybel34\ X0)))) \tag{7}$$

Assume the following.

$$\forall X0.(\neg v2\_setfam\_1\ X0)\Rightarrow((v9\_functor0\ (k6\_waybel34\ X0)\ (k4\_waybel34\ X0)\ (k5\_waybel34\ X0))\wedge((v16\_functor0\ (k6\_waybel34\ X0)\ (k4\_waybel34\ X0)\ (k5\_waybel34\ X0))\wedge(m2\_functor0\ (k6\_waybel34\ X0)\ (k4\_waybel34\ X0)\ (k5\_waybel34\ X0)))) \tag{8}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow((\neg v2\_struct\_0\ (k5\_waybel34\ X0))\wedge((v2\_altcat\_1\ (k5\_waybel34\ X0))\wedge((v6\_altcat\_1\ (k5\_waybel34\ X0))\wedge((v11\_altcat\_1\ (k5\_waybel34\ X0))\wedge((v12\_altcat\_1\ (k5\_waybel34\ X0))\wedge((v2\_yellow21\ (k5\_waybel34\ X0))\wedge(l2\_altcat\_1\ (k5\_waybel34\ X0)))))))) \tag{9}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow((\neg v2\_struct\_0\ (k4\_waybel34\ X0))\wedge((v2\_altcat\_1\ (k4\_waybel34\ X0))\wedge((v6\_altcat\_1\ (k4\_waybel34\ X0))\wedge((v11\_altcat\_1\ (k4\_waybel34\ X0))\wedge((v12\_altcat\_1\ (k4\_waybel34\ X0))\wedge((v2\_yellow21\ (k4\_waybel34\ X0))\wedge(l2\_altcat\_1\ (k4\_waybel34\ X0))))))))) \tag{10}$$

Assume the following.

$$\forall X0.(\neg v2\_setfam\_1\ X0)\Rightarrow(\neg v1\_xboole\_0\ X0) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v2\_altcat\_1\ X0)\wedge((v12\_altcat\_1\ X0)\wedge(l2\_altcat\_1\ X0))))\wedge((\neg v2\_struct\_0\ X1)\wedge((v12\_altcat\_1\ X1)\wedge(l2\_altcat\_1\ X1))))\Rightarrow(\forall X2.(m2\_functor0\ X2\ X0\ X1)\Rightarrow((v8\_functor0\ X2\ X0\ X1)\wedge(v12\_functor0\ X2\ X0\ X1))) \tag{12}$$

Assume the following.

$$\forall X0.(l2\_altcat\_1\ X0)\Rightarrow(((\neg v2\_struct\_0\ X0)\wedge(v12\_altcat\_1\ X0))\Rightarrow((\neg v2\_struct\_0\ X0)\wedge(v1\_altcat\_2\ X0))) \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((l1\_altcat\_1\ X0)\wedge((l1\_altcat\_1\ X1)\wedge(l2\_functor0\ X2\ X0\ X1)))\Rightarrow((v9\_functor0\ X2\ X0\ X1)\Rightarrow(X2 = g2\_functor0\ X0\ X1\ (u1\_functor0\ X0\ X1\ X2)\ (u2\_functor0\ X0\ X1\ X2))) \tag{14}$$

Theorem 1

$$\forall X0.(\neg v2\_setfam\_1\ X0)\Rightarrow((k13\_functor0\ (k5\_waybel34\ X0)\ (k4\_waybel34\ X0)\ (k5\_waybel34\ X0)\ (k7\_waybel34\ X0)\ (k6\_waybel34\ X0) = k12\_functor0\ (k5\_waybel34\ X0))\wedge(k13\_functor0\ (k4\_waybel34\ X0)\ (k5\_waybel34\ X0)\ (k4\_waybel34\ X0)\ (k6\_waybel34\ X0)\ (k7\_waybel34\ X0) = k12\_functor0\ (k4\_waybel34\ X0)))$$