

t53_waybel34 (TMVi4carUhD5cR6vxdw5vWxTZqGHS2sm5cY)

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Let $v2_setfam.1 : \iota \Rightarrow o$ be given. Let $r3_yellow20 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $k9_waybel34 : \iota \Rightarrow \iota$ be given. Let $k8_waybel34 : \iota \Rightarrow \iota$ be given. Let $k6_waybel34 : \iota \Rightarrow \iota$ be given. Let $v2_struct.0 : \iota \Rightarrow o$ be given. Let $v2_altcat.1 : \iota \Rightarrow o$ be given. Let $v11_altcat.1 : \iota \Rightarrow o$ be given. Let $v12_altcat.1 : \iota \Rightarrow o$ be given. Let $l2_altcat.1 : \iota \Rightarrow o$ be given. Let $v16_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v21_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_altcat.2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_altcat.2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k15_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v9_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v6_altcat.1 : \iota \Rightarrow o$ be given. Let $v1_xboole.0 : \iota \Rightarrow o$ be given. Let $v2_yellow21 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. (\neg v2_setfam.1 X0) \Rightarrow (r3_yellow20 (k4_waybel34 X0) (k5_waybel34 X0) (k6_waybel34 X0) (k8_waybel34 X0) (k9_waybel34 X0)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct.0 X0) \wedge ((v2_altcat.1 X0) \wedge ((v11_altcat.1 X0) \wedge ((v12_altcat.1 X0) \wedge (l2_altcat.1 X0)))))) \Rightarrow (\forall X1. ((\neg v2_struct.0 X1) \wedge ((v2_altcat.1 X1) \wedge ((v11_altcat.1 X1) \wedge ((v12_altcat.1 X1) \wedge (l2_altcat.1 X1)))))) \Rightarrow (\forall X2. ((v16_functor0 X2 X0 X1) \wedge (m2_functor0 X2 X0 X1)) \Rightarrow ((v21_functor0 X2 X0 X1) \Rightarrow (\forall X3. ((\neg v2_struct.0 X3) \wedge ((v2_altcat.1 X3) \wedge ((v3_altcat.2 X3 X0) \wedge (m1_altcat.2 X3 X0)))))) \Rightarrow (\forall X4. ((\neg v2_struct.0 X4) \wedge ((v2_altcat.1 X4) \wedge ((v3_altcat.2 X4 X1) \wedge (m1_altcat.2 X4 X1)))))) \Rightarrow ((r3_yellow20 X0 X1 X2 X3 X4) \Rightarrow (r3_yellow20 X1 X0 (k15_functor0 X0 X1 X2) X4 X3)))))) \quad (2) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v2_setfam.1 X0) \Rightarrow ((k15_functor0 (k4_waybel34 X0) (k5_waybel34 X0) (k6_waybel34 X0) = k7_waybel34 X0) \wedge (k15_functor0 (k5_waybel34 X0) (k4_waybel34 X0) (k7_waybel34 X0) = k6_waybel34 X0)) \quad (3) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v2_setfam_1 X0) \Rightarrow & ((v9_functor0 (k6_waybel34 X0) \\ & (k4_waybel34 X0) (k5_waybel34 X0)) \wedge ((v16_functor0 (k6_waybel34 \\ & X0) (k4_waybel34 X0) (k5_waybel34 X0)) \wedge (v21_functor0 (k6_waybel34 \\ & X0) (k4_waybel34 X0) (k5_waybel34 X0)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v2_setfam_1 X0) \Rightarrow & ((\neg v2_struct_0 (k9_waybel34 X0)) \wedge \\ & ((v2_altcat_1 (k9_waybel34 X0)) \wedge ((v6_altcat_1 (k9_waybel34 \\ & X0)) \wedge ((v3_altcat_2 (k9_waybel34 X0) (k5_waybel34 X0)) \wedge (m1_altcat_2 \\ & (k9_waybel34 X0) (k5_waybel34 X0)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow & ((\neg v2_struct_0 (k8_waybel34 X0)) \wedge \\ & ((v2_altcat_1 (k8_waybel34 X0)) \wedge ((v6_altcat_1 (k8_waybel34 \\ & X0)) \wedge ((v3_altcat_2 (k8_waybel34 X0) (k4_waybel34 X0)) \wedge (m1_altcat_2 \\ & (k8_waybel34 X0) (k4_waybel34 X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v2_setfam_1 X0) \Rightarrow & ((v9_functor0 (k6_waybel34 X0) \\ & (k4_waybel34 X0) (k5_waybel34 X0)) \wedge ((v16_functor0 (k6_waybel34 \\ & X0) (k4_waybel34 X0) (k5_waybel34 X0)) \wedge (m2_functor0 (k6_waybel34 \\ & X0) (k4_waybel34 X0) (k5_waybel34 X0)))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow & ((\neg v2_struct_0 (k5_waybel34 X0)) \wedge \\ & ((v2_altcat_1 (k5_waybel34 X0)) \wedge ((v6_altcat_1 (k5_waybel34 \\ & X0)) \wedge ((v11_altcat_1 (k5_waybel34 X0)) \wedge ((v12_altcat_1 (k5_waybel34 \\ & X0)) \wedge ((v2_yellow21 (k5_waybel34 X0)) \wedge (l2_altcat_1 (k5_waybel34 \\ & X0)))))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow & ((\neg v2_struct_0 (k4_waybel34 X0)) \wedge \\ & ((v2_altcat_1 (k4_waybel34 X0)) \wedge ((v6_altcat_1 (k4_waybel34 \\ & X0)) \wedge ((v11_altcat_1 (k4_waybel34 X0)) \wedge ((v12_altcat_1 (k4_waybel34 \\ & X0)) \wedge ((v2_yellow21 (k4_waybel34 X0)) \wedge (l2_altcat_1 (k4_waybel34 \\ & X0)))))))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0. (\neg v2_setfam_1 X0) \Rightarrow (\neg v1_xboole_0 X0) \quad (10)$$

Theorem 1

$$\forall X0.(\neg v2_setfam_1\ X0)\Rightarrow(r3_yellow20\ (k5_waybel34\ X0)\ (k4_waybel34\ X0)\ (k7_waybel34\ X0)\ (k9_waybel34\ X0)\ (k8_waybel34\ X0))$$