

t20_yellow20

(TMVgvyxbuP1snPSaFodUA8E7VXPXa8hN96ok)

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Let $l2_altcat_1 : \iota \Rightarrow o$ be given. Let $r1_yellow20 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_altcat_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_yellow20 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_yellow20 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_altcat_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u2_altcat_1 : \iota \Rightarrow \iota$ be given. Let $k3_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_altcat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_altcat_1 : \iota \Rightarrow \iota$ be given. Let $k2_altcat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_altcat_1 : \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v6_altcat_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. r1_tarski (k3_xboole_0 X0 X1) X0 \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge ((v4_relat_1 \\ & X2 X0) \wedge ((v1_funct_1 X2) \wedge (v1_partfun1 X2 X0)))) \Rightarrow (\forall X3. (\\ & (v1_relat_1 X3) \wedge (v1_funct_1 X3)) \Rightarrow (\forall X4. ((v1_relat_1 X4) \wedge \\ & ((v4_relat_1 X4 X1) \wedge ((v1_funct_1 X4) \wedge (v1_partfun1 X4 X1)))) \Rightarrow \\ & ((X4 = k1_yellow20 X2 X3) \Rightarrow (r2_altcat_2 X1 X0 X4 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((l2_altcat_1 X0) \wedge (l2_altcat_1 X1)) \Rightarrow (r1_yellow20 X0 X1) \Rightarrow (r1_yellow20 X1 X0) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l2_altcat_1 X0) \Rightarrow (m2_pboole (u2_altcat_1 X0) (k3_zfmisc_1 \\ & (u1_struct_0 X0) (u1_struct_0 X0) (u1_struct_0 X0)) (k3_altcat_1 \\ & (u1_struct_0 X0) (u1_altcat_1 X0) (u1_altcat_1 X0)) (k2_altcat_1 \\ & (u1_struct_0 X0) (u1_altcat_1 X0))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_altcat_1 X0) \Rightarrow & ((v1_relat_1 (u1_altcat_1 X0)) \wedge \\ & ((v4_relat_1 (u1_altcat_1 X0) (k2_zfmisc_1 (u1_struct_0 X0) (\\ & u1_struct_0 X0))) \wedge ((v1_funct_1 (u1_altcat_1 X0)) \wedge (v1_partfun1 \\ & (u1_altcat_1 X0) (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((v1_relat_1 X1) \wedge ((v4_relat_1 \\ X1 X0) \wedge ((v1_funct_1 X1) \wedge (v1_partfun1 X1 X0)))) \wedge ((v1_relat_1 \\ X2) \wedge ((v4_relat_1 X2 X0) \wedge ((v1_funct_1 X2) \wedge (v1_partfun1 X2 X0)))))) \Rightarrow \\ (\forall X3.(m2_pboole X3 X0 X1 X2) \Rightarrow ((v1_relat_1 X3) \wedge ((v4_relat_1 \\ X3 X0) \wedge ((v1_funct_1 X3) \wedge (v1_partfun1 X3 X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.(l2_altcat_1 X0) \Rightarrow (l1_altcat_1 X0) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((v1_relat_1 X1) \wedge ((v4_relat_1 \\ X1 (k2_zfmisc_1 X0 X0)) \wedge ((v1_funct_1 X1) \wedge (v1_partfun1 X1 (k2_zfmisc_1 \\ X0 X0)))))) \wedge ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (k2_zfmisc_1 X0 X0)) \wedge \\ ((v1_funct_1 X2) \wedge (v1_partfun1 X2 (k2_zfmisc_1 X0 X0)))))) \Rightarrow ((\\ v1_relat_1 (k3_altcat_1 X0 X1 X2)) \wedge ((v4_relat_1 (k3_altcat_1 \\ X0 X1 X2) (k3_zfmisc_1 X0 X0 X0)) \wedge ((v1_funct_1 (k3_altcat_1 X0 X1 \\ X2)) \wedge (v1_partfun1 (k3_altcat_1 X0 X1 X2) (k3_zfmisc_1 X0 X0 X0)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((l2_altcat_1 X0) \wedge (l2_altcat_1 X1)) \Rightarrow (\\ (v6_altcat_1 (k2_yellow20 X0 X1)) \wedge (l2_altcat_1 (k2_yellow20 \\ X0 X1))) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((v1_relat_1 X1) \wedge ((v4_relat_1 X1 (k2_zfmisc_1 \\ X0 X0)) \wedge ((v1_funct_1 X1) \wedge (v1_partfun1 X1 (k2_zfmisc_1 X0 X0)))))) \Rightarrow \\ ((v1_relat_1 (k2_altcat_1 X0 X1)) \wedge ((v4_relat_1 (k2_altcat_1 \\ X0 X1) (k3_zfmisc_1 X0 X0 X0)) \wedge ((v1_funct_1 (k2_altcat_1 X0 X1)) \wedge \\ (v1_partfun1 (k2_altcat_1 X0 X1) (k3_zfmisc_1 X0 X0 X0)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.(l2_altcat_1 X0) \Rightarrow (\forall X1.(l2_altcat_1 X1) \Rightarrow ((\\ r1_yellow20 X0 X1) \Rightarrow (\forall X2.(((v6_altcat_1 X2) \wedge (l2_altcat_1 \\ X2)) \Rightarrow ((X2 = k2_yellow20 X0 X1) \Leftrightarrow ((u1_struct_0 X2 = k3_xboole_0 (\\ u1_struct_0 X0) (u1_struct_0 X1)) \wedge ((u1_altcat_1 X2 = k1_yellow20 \\ (u1_altcat_1 X0) (u1_altcat_1 X1)) \wedge (u2_altcat_1 X2 = k1_yellow20 \\ (u2_altcat_1 X0) (u2_altcat_1 X1)))))))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.(l2_altcat_1 X0) \Rightarrow (\forall X1.(l2_altcat_1 X1) \Rightarrow ((\\ m1_altcat_2 X1 X0) \Leftrightarrow ((r1_tarski (u1_struct_0 X1) (u1_struct_0 \\ X0)) \wedge ((r2_altcat_2 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 \\ X1)) (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (u1_altcat_1 \\ X1) (u1_altcat_1 X0)) \wedge (r2_altcat_2 (k3_zfmisc_1 (u1_struct_0 \\ X1) (u1_struct_0 X1) (u1_struct_0 X1)) (k3_zfmisc_1 (u1_struct_0 \\ X0) (u1_struct_0 X0) (u1_struct_0 X0)) (u2_altcat_1 X1) (u2_altcat_1 \\ X0)))))) \end{aligned} \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \tag{13}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \wedge ((\\ v1_relat_1 X1) \wedge (v1_funct_1 X1))) \Rightarrow (k1_yellow20 X0 X1 = k1_yellow20 \\ X1 X0) \end{aligned} \tag{14}$$

Theorem 1

$$\begin{aligned} \forall X0.(l2_altcat_1 X0) \Rightarrow (\forall X1.(l2_altcat_1 X1) \Rightarrow ((\\ r1_yellow20 X0 X1) \Rightarrow (m1_altcat_2 (k2_yellow20 X0 X1) X0))) \end{aligned}$$