

t2_yellow16
(TMTcQ6UJ8tCuif2X8kBN3BjtdqeDifTFSWo)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $m1_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ 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 $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_yellow_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(m1_yellow_0 X1 X0) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 \\ & X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 \\ & X1)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X1)) \Rightarrow (((X4 = X2) \wedge \\ & ((X5 = X3) \wedge (r1_orders_2 X1 X4 X5)) \Rightarrow (r1_orders_2 X0 X2 X3))))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge (m1_yellow_0 X1 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X1)) \Rightarrow (m1_subset_1 X2 (u1_struct_0 X0)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & (((\neg v1_xboole_0 X1) \wedge ((\neg v1_xboole_0 X3) \wedge (((v1_funct_1 X4) \wedge ((\\ & v1_funct_2 X4 X0 X1) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))))) \wedge ((v1_funct_1 X5) \wedge ((v1_funct_2 X5 X2 X3) \wedge (m1_subset_1 \\ & X5 (k1_zfmisc_1 (k2_zfmisc_1 X2 X3))))))))) \Rightarrow ((r1_funct_2 X0 X1 \\ & X2 X3 X4 X5) \Leftrightarrow (X4 = X5)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 \\ & (u1_struct_0 X0)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(m1_yellow_0 X1 X0) \Rightarrow (l1_orders_2 X1)) \quad (5)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow (l1_struct_0 X0) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(l1_orders_2 X1) \Rightarrow (\forall X2.((v1_funct_1 \\ & X2) \wedge ((v1_funct_2 X2 X0 (u1_struct_0 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 (u1_struct_0 X1)))))) \Rightarrow (\forall X3.((v1_funct_1 \\ & X3) \wedge ((v1_funct_2 X3 X0 (u1_struct_0 X1)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 (u1_struct_0 X1)))))) \Rightarrow ((r1_yellow_2 X0 X1 X2 X3) \Leftrightarrow \\ & (\forall X4.\neg(X4 \in X0) \wedge (\forall X5.(m1_subset_1 X5 (u1_struct_0 \\ & X1)) \Rightarrow (\forall X6.(m1_subset_1 X6 (u1_struct_0 X1)) \Rightarrow (\neg(X5 = k1_funct_1 \\ & X2 X4) \wedge ((X6 = k1_funct_1 X3 X4) \wedge (r1_orders_2 X1 X5 X6)))))))))) \quad (7) \end{aligned}$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.((\neg v2_struct_0 X1) \wedge (l1_orders_2 X1)) \Rightarrow \\ & (\forall X2.((\neg v2_struct_0 X2) \wedge (m1_yellow_0 X2 X1)) \Rightarrow (\forall X3. \\ & ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 (u1_struct_0 X2)) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 X2)))))) \Rightarrow (\forall X4. \\ & ((v1_funct_1 X4) \wedge ((v1_funct_2 X4 X0 (u1_struct_0 X2)) \wedge (m1_subset_1 \\ & X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 X2)))))) \Rightarrow (\forall X5. \\ & ((v1_funct_1 X5) \wedge ((v1_funct_2 X5 X0 (u1_struct_0 X1)) \wedge (m1_subset_1 \\ & X5 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 X1)))))) \Rightarrow (\forall X6. \\ & ((v1_funct_1 X6) \wedge ((v1_funct_2 X6 X0 (u1_struct_0 X1)) \wedge (m1_subset_1 \\ & X6 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 X1)))))) \Rightarrow (((r1_funct_2 \\ & X0 (u1_struct_0 X1) X0 (u1_struct_0 X2) X5 X3) \wedge ((r1_funct_2 X0 (\\ & u1_struct_0 X1) X0 (u1_struct_0 X2) X6 X4) \wedge (r1_yellow_2 X0 X2 X3 \\ & X4))) \Rightarrow (r1_yellow_2 X0 X1 X5 X6)))))) \end{aligned}$$