

t37_inensp_1

(TMHKN1qgtanMHExug4EJGr9HkzMvgGD8s6Y)

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Let $v15_incsp_1 : \iota \Rightarrow o$ be given. Let $l2_incsp_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_incsp_1 : \iota \Rightarrow \iota$ be given. Let $v3_incsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_incsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_incsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_incsp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u4_incsp_1 : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r5_incsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_incsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $l1_incsp_1 : \iota \Rightarrow o$ be given. Let $u2_incsp_1 : \iota \Rightarrow \iota$ be given. Let $r4_incsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_incsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3_incsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(l2_incsp_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_incsp_1 \\ & \quad X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u4_incsp_1 X0)) \Rightarrow (\forall X3. \\ & \quad (m1_subset_1 X3 (k1_zfmisc_1 (u1_incsp_1 X0))) \Rightarrow (((r5_incsp_1 \\ & \quad X0 X3 X2) \wedge (r2_incsp_1 X0 X1 X2)) \Leftrightarrow (r5_incsp_1 X0 (k4_subset_1 (u1_incsp_1 \\ & \quad X0) X3 (k6_domain_1 (u1_incsp_1 X0) X1)) X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k1_enumset1 X0 X1 X2 = k2_xboole_0 (k2_tarski X0 X1) (k1_tarski X2) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_incsp_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u2_incsp_1 \\ & \quad X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_incsp_1 X0)) \Rightarrow (\forall X3. \\ & \quad (m1_subset_1 X3 (u1_incsp_1 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\ & \quad (u1_incsp_1 X0)) \Rightarrow ((r4_incsp_1 X0 (k8_domain_1 (u1_incsp_1 X0) \\ & \quad X2 X3 X4) X1) \Leftrightarrow ((r1_incsp_1 X0 X2 X1) \wedge ((r1_incsp_1 X0 X3 X1) \wedge (r1_incsp_1 \\ & \quad X0 X4 X1)))))))))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_incsp_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u2_incsp_1 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_incsp_1 X0)) \Rightarrow (\forall X3. \\ (m1_subset_1 X3 (u1_incsp_1 X0)) \Rightarrow ((r4_incsp_1 X0 (k7_domain_1 \\ (u1_incsp_1 X0) X2 X3) X1) \Leftrightarrow ((r1_incsp_1 X0 X2 X1) \wedge (r1_incsp_1 X0 \\ X3 X1)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.((v15_incsp_1 X0) \wedge (l2_incsp_1 X0)) \Rightarrow (\forall X1.(\\ m1_subset_1 X1 (u1_incsp_1 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (\\ u1_incsp_1 X0)) \Rightarrow (v3_incsp_1 (k8_domain_1 (u1_incsp_1 X0) X1 X1 \\ X2) X0))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((v15_incsp_1 X0) \wedge (l2_incsp_1 X0)) \Rightarrow (\forall X1.(\\ m1_subset_1 X1 (u2_incsp_1 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (\\ u4_incsp_1 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (u1_incsp_1 \\ X0)) \Rightarrow (((r4_incsp_1 X0 X3 X1) \wedge (r3_incsp_1 X0 X1 X2)) \Rightarrow (r5_incsp_1 \\ X0 X3 X2)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0) \wedge \\ ((m1_subset_1 X1 X0) \wedge ((m1_subset_1 X2 X0) \wedge (m1_subset_1 X3 X0)))) \Rightarrow \\ (k8_domain_1 X0 X1 X2 X3 = k1_enumset1 X1 X2 X3) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0) \wedge ((m1_subset_1 \\ X1 X0) \wedge (m1_subset_1 X2 X0))) \Rightarrow (k7_domain_1 X0 X1 X2 = k2_tarski X1 \\ X2) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X1 X0)) \Rightarrow \\ (k6_domain_1 X0 X1 = k1_tarski X1) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 \\ X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X0))) \Rightarrow (k4_subset_1 X0 X1 X2 = \\ k2_xboole_0 X1 X2) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(l1_incsp_1 X0) \Rightarrow (\neg v1_xboole_0 (u1_incsp_1 X0)) \quad (11)$$

Assume the following.

$$\forall X0.(l2_incsp_1 X0) \Rightarrow (l1_incsp_1 X0) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0) \wedge \\ & ((m1_subset_1 X1 X0) \wedge ((m1_subset_1 X2 X0) \wedge (m1_subset_1 X3 X0)))) \Rightarrow \\ & (m1_subset_1 (k8_domain_1 X0 X1 X2 X3) (k1_zfmisc_1 X0)) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0) \wedge ((m1_subset_1 \\ & X1 X0) \wedge (m1_subset_1 X2 X0))) \Rightarrow (m1_subset_1 (k7_domain_1 X0 X1 X2) \\ & (k1_zfmisc_1 X0)) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X1 X0)) \Rightarrow \\ & (m1_subset_1 (k6_domain_1 X0 X1) (k1_zfmisc_1 X0)) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((v15_incsp_1 X0) \wedge (l2_incsp_1 \\ & X0)) \wedge ((m1_subset_1 X1 (u1_incsp_1 X0)) \wedge (m1_subset_1 X2 (u2_incsp_1 \\ & X0)))) \Rightarrow (m1_subset_1 (k3_incsp_1 X0 X1 X2) (u4_incsp_1 X0)) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((v15_incsp_1 X0) \wedge (l2_incsp_1 \\ & X0)) \wedge ((m1_subset_1 X1 (u1_incsp_1 X0)) \wedge (m1_subset_1 X2 (u1_incsp_1 \\ & X0)))) \Rightarrow (m1_subset_1 (k1_incsp_1 X0 X1 X2) (u2_incsp_1 X0)) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_incsp_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ & (u1_incsp_1 X0))) \Rightarrow ((v3_incsp_1 X1 X0) \Leftrightarrow (\exists X2.(m1_subset_1 \\ & X2 (u2_incsp_1 X0)) \wedge (r4_incsp_1 X0 X1 X2)))) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v15_incsp_1 X0) \wedge (l2_incsp_1 X0)) \Rightarrow (\forall X1.(\\ & m1_subset_1 X1 (u1_incsp_1 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (\\ & u2_incsp_1 X0)) \Rightarrow ((\neg r1_incsp_1 X0 X1 X2) \Rightarrow (\forall X3.(m1_subset_1 \\ & X3 (u4_incsp_1 X0)) \Rightarrow ((X3 = k3_incsp_1 X0 X1 X2) \Leftrightarrow ((r2_incsp_1 X0 \\ & X1 X3) \wedge (r3_incsp_1 X0 X2 X3)))))) \end{aligned} \quad (19)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v15_incsp_1 X0) \wedge (l2_incsp_1 X0)) \Rightarrow (\forall X1.(\\
& \quad m1_subset_1 X1 (u1_incsp_1 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (\\
& \quad u1_incsp_1 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_incsp_1 X0)) \Rightarrow \\
& \quad ((\neg v3_incsp_1 (k8_domain_1 (u1_incsp_1 X0) X1 X2 X3) X0) \Rightarrow (\forall X4. \\
& \quad (m1_subset_1 X4 (u4_incsp_1 X0)) \Rightarrow ((X4 = k2_incsp_1 X0 X1 X2 X3) \Leftrightarrow \\
& \quad (r5_incsp_1 X0 (k8_domain_1 (u1_incsp_1 X0) X1 X2 X3) X4)))))))))
\end{aligned} \tag{20}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v15_incsp_1 X0) \wedge (l2_incsp_1 X0)) \Rightarrow (\forall X1.(\\
& \quad m1_subset_1 X1 (u1_incsp_1 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (\\
& \quad u1_incsp_1 X0)) \Rightarrow ((X1 \neq X2) \Rightarrow (\forall X3.(m1_subset_1 X3 (u2_incsp_1 \\
& \quad X0)) \Rightarrow ((X3 = k1_incsp_1 X0 X1 X2) \Leftrightarrow (r4_incsp_1 X0 (k7_domain_1 (u1_incsp_1 \\
& \quad X0) X1 X2) X3))))))
\end{aligned} \tag{21}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((v15_incsp_1 X0) \wedge (l2_incsp_1 X0)) \Rightarrow (\forall X1.(\\
& \quad m1_subset_1 X1 (u1_incsp_1 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (\\
& \quad u1_incsp_1 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_incsp_1 X0)) \Rightarrow \\
& \quad ((\neg v3_incsp_1 (k8_domain_1 (u1_incsp_1 X0) X1 X2 X3) X0) \Rightarrow (k2_incsp_1 \\
& \quad X0 X1 X2 X3 = k3_incsp_1 X0 X3 (k1_incsp_1 X0 X1 X2))))))
\end{aligned}$$