

t3_tmap_1 (TMb- bK mLby2MDUxiHFawnBnNwZ5nSYQVHC2v)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ 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 $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tmap_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\
 & ((\neg v1_xboole_0 X1) \wedge (\neg v1_xboole_0 X3) \wedge ((v1_funct_1 X4) \wedge (v1_funct_2 X4 X0 X1) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \wedge ((v1_funct_1 X5) \wedge ((v1_funct_2 X5 X2 X3) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 X2 X3)))))) \Rightarrow ((r1_funct_2 X0 X1 X2 X3 X4 X5) \Leftrightarrow (X4 = X5))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\
 & ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X0))) \wedge (((\neg v1_xboole_0 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 X0))) \wedge (((v1_funct_1 X4) \wedge ((v1_funct_2 X4 X2 X1) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X2 X1)))))) \wedge ((v1_funct_1 X5) \wedge ((v1_funct_2 X5 X3 X1) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 X3 X1)))))))))) \Rightarrow ((v1_funct_1 (k1_tmap_1 X0 X1 X2 X3 X4 X5)) \wedge ((v1_funct_2 (k1_tmap_1 X0 X1 X2 X3 X4 X5) (k4_subset_1 X0 X2 X3) X1) \wedge (m1_subset_1 (k1_tmap_1 X0 X1 X2 X3 X4 X5) (k1_zfmisc_1 (k2_zfmisc_1 (k4_subset_1 X0 X2 X3) X1))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow \\
& (\forall X2.((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
& X0))) \Rightarrow (\forall X3.((\neg v1_xboole_0 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
& X0))) \Rightarrow (\forall X4.((v1_funct_1 X4) \wedge ((v1_funct_2 X4 X2 X1) \wedge (m1_subset_1 \\
& X4 (k1_zfmisc_1 (k2_zfmisc_1 X2 X1)))))) \Rightarrow (\forall X5.((v1_funct_1 \\
& X5) \wedge ((v1_funct_2 X5 X3 X1) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X3 X1)))))) \Rightarrow ((k2_partfun1 X2 X1 X4 (k9_subset_1 X0 X2 X3) = k2_partfun1 \\
& X3 X1 X5 (k9_subset_1 X0 X2 X3)) \Rightarrow (\forall X6.((v1_funct_1 X6) \wedge (\\
& (v1_funct_2 X6 (k4_subset_1 X0 X2 X3) X1) \wedge (m1_subset_1 X6 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (k4_subset_1 X0 X2 X3) X1)))))) \Rightarrow ((X6 = k1_tmap_1 X0 \\
& X1 X2 X3 X4 X5) \Leftrightarrow ((k2_partfun1 (k4_subset_1 X0 X2 X3) X1 X6 X2 = X4) \wedge \\
& (k2_partfun1 (k4_subset_1 X0 X2 X3) X1 X6 X3 = X5)))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow (k9_subset_1 X0 X1 X2 = k9_subset_1 X0 X2 X1) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X0))) \Rightarrow (k4_subset_1 X0 X1 X2 = k4_subset_1 X0 X2 X1) \tag{5}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow \\
& (\forall X2.((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
& X0))) \Rightarrow (\forall X3.((\neg v1_xboole_0 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
& X0))) \Rightarrow (\forall X4.((v1_funct_1 X4) \wedge ((v1_funct_2 X4 X2 X1) \wedge (m1_subset_1 \\
& X4 (k1_zfmisc_1 (k2_zfmisc_1 X2 X1)))))) \Rightarrow (\forall X5.((v1_funct_1 \\
& X5) \wedge ((v1_funct_2 X5 X3 X1) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X3 X1)))))) \Rightarrow ((k2_partfun1 X2 X1 X4 (k9_subset_1 X0 X2 X3) = k2_partfun1 \\
& X3 X1 X5 (k9_subset_1 X0 X2 X3)) \Rightarrow (r1_funct_2 (k4_subset_1 X0 X2 X3) \\
& X1 (k4_subset_1 X0 X3 X2) X1 (k1_tmap_1 X0 X1 X2 X3 X4 X5) (k1_tmap_1 \\
& X0 X1 X3 X2 X5 X4)))))))))
\end{aligned}$$