

t16_ltlaxio1

(TMT81D7bLvPur8XzhHTD9kpgbmiD36ndXbm)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_hilbert1 : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k10_ltlaxio1 : \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_margrel1 : \iota$ be given. Let $k11_ltlaxio1 : \iota \Rightarrow \iota$ be given. Let $k1_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_hilbert1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_ltlaxio1 : \iota \Rightarrow \iota$ be given. Let $k1_ltlaxio1 : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k2_hilbert1 : \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k1_hilbert2 : \iota \Rightarrow \iota$ be given. Let $k6_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_hilbert1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(m1_subset_1 X0 k1_hilbert1) \Rightarrow (\forall X1.(m1_subset_1 \\
 & \quad X1 k5_numbers) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 \\
 & \quad k5_numbers (k1_zfmisc_1 k10_ltlaxio1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
 & \quad (k2_zfmisc_1 k5_numbers (k1_zfmisc_1 k10_ltlaxio1)))))) \Rightarrow (k3_funct_2 \\
 & \quad (k2_zfmisc_1 k5_numbers k1_hilbert1) k6_margrel1 (k11_ltlaxio1 \\
 & \quad X2) (k1_domain_1 k5_numbers k1_hilbert1 X1 (k3_hilbert1 (k1_ltlaxio1 \\
 & \quad (k2_ltlaxio1 X0)) (k2_ltlaxio1 (k1_ltlaxio1 X0)))) = np_1)))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.(m1_subset_1 X0 k1_hilbert1) \Rightarrow (\forall X1.(m1_subset_1 \\
 & \quad X1 k5_numbers) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 \\
 & \quad k5_numbers (k1_zfmisc_1 k10_ltlaxio1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
 & \quad (k2_zfmisc_1 k5_numbers (k1_zfmisc_1 k10_ltlaxio1)))))) \Rightarrow (k3_funct_2 \\
 & \quad (k2_zfmisc_1 k5_numbers k1_hilbert1) k6_margrel1 (k11_ltlaxio1 \\
 & \quad X2) (k1_domain_1 k5_numbers k1_hilbert1 X1 (k1_ltlaxio1 (k2_ltlaxio1 \\
 & \quad X0))) = k3_funct_2 (k2_zfmisc_1 k5_numbers k1_hilbert1) k6_margrel1 \\
 & \quad (k11_ltlaxio1 X2) (k1_domain_1 k5_numbers k1_hilbert1 X1 (k2_ltlaxio1 \\
 & \quad (k1_ltlaxio1 X0))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_hilbert1) \Rightarrow (m1_subset_1 (k2_ltlaxio1 X0) k1_hilbert1) \quad (3)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_hilbert1) \Rightarrow (m1_subset_1 (k1_ltlaxio1 X0) k1_hilbert1) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers (k1_zfmisc_1 \\ k10_ltlaxio1)) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\ (k1_zfmisc_1 k10_ltlaxio1)))))) \Rightarrow ((v1_funct_1 (k11_ltlaxio1 \\ X0) \wedge ((v1_funct_2 (k11_ltlaxio1 X0) (k2_zfmisc_1 k5_numbers \\ k1_hilbert1) k6_margrel1) \wedge (m1_subset_1 (k11_ltlaxio1 X0) (k1_zfmisc_1 \\ (k2_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_hilbert1) k6_margrel1)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers (k1_zfmisc_1 \\
& k10_ltlaxio1)) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\
& (k1_zfmisc_1 k10_ltlaxio1)))))) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\
& ((v1_funct_2 X1 (k2_zfmisc_1 k5_numbers k1_hilbert1) k6_margrel1) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 k5_numbers \\
& k1_hilbert1) k6_margrel1)))))) \Rightarrow ((X1 = k11_ltlaxio1 X0) \Leftrightarrow (\forall X2. \\
& (m1_subset_1 X2 k5_numbers) \Rightarrow ((k3_funct_2 (k2_zfmisc_1 k5_numbers \\
& k1_hilbert1) k6_margrel1 X1 (k1_domain_1 k5_numbers k1_hilbert1 \\
& X2 k2_hilbert1) = k6_numbers) \wedge ((\forall X3.(m1_subset_1 X3 k5_numbers) \Rightarrow \\
& ((k3_funct_2 (k2_zfmisc_1 k5_numbers k1_hilbert1) k6_margrel1 \\
& X1 (k1_domain_1 k5_numbers k1_hilbert1 X2 (k1_hilbert2 X3)) = np_1) \Leftrightarrow \\
& (k1_hilbert2 X3 \in k3_funct_2 k5_numbers (k1_zfmisc_1 k10_ltlaxio1) \\
& X0 X2))) \wedge (\forall X3.(m1_subset_1 X3 k1_hilbert1) \Rightarrow (\forall X4. \\
& (m1_subset_1 X4 k1_hilbert1) \Rightarrow ((k3_funct_2 (k2_zfmisc_1 k5_numbers \\
& k1_hilbert1) k6_margrel1 X1 (k1_domain_1 k5_numbers k1_hilbert1 \\
& X2 (k3_hilbert1 X3 X4)) = k6_xboolean (k3_funct_2 (k2_zfmisc_1 \\
& k5_numbers k1_hilbert1) k6_margrel1 X1 (k1_domain_1 k5_numbers \\
& k1_hilbert1 X2 X3)) (k3_funct_2 (k2_zfmisc_1 k5_numbers k1_hilbert1) \\
& k6_margrel1 X1 (k1_domain_1 k5_numbers k1_hilbert1 X2 X4))) \wedge (\\
& (\neg(k3_funct_2 (k2_zfmisc_1 k5_numbers k1_hilbert1) k6_margrel1 \\
& X1 (k1_domain_1 k5_numbers k1_hilbert1 X2 (k4_hilbert1 X3 X4)) = \\
& np_1) \wedge (\forall X5.(m1_subset_1 X5 k5_numbers) \Rightarrow (\neg(\neg r1_xxreal_0 \\
& X5 k6_numbers) \wedge ((k3_funct_2 (k2_zfmisc_1 k5_numbers k1_hilbert1) \\
& k6_margrel1 X1 (k1_domain_1 k5_numbers k1_hilbert1 (k2_nat_1 \\
& X2 X5) X4) = np_1) \wedge (\forall X6.(m1_subset_1 X6 k5_numbers) \Rightarrow ((\\
& r1_xxreal_0 np_1 X6) \Rightarrow ((r1_xxreal_0 X5 X6) \vee (k3_funct_2 (k2_zfmisc_1 \\
& k5_numbers k1_hilbert1) k6_margrel1 X1 (k1_domain_1 k5_numbers \\
& k1_hilbert1 (k2_nat_1 X2 X6) X3) = np_1)))))) \wedge ((\exists X5. \\
& (m1_subset_1 X5 k5_numbers) \wedge ((\neg r1_xxreal_0 X5 k6_numbers) \wedge (\\
& (k3_funct_2 (k2_zfmisc_1 k5_numbers k1_hilbert1) k6_margrel1 \\
& X1 (k1_domain_1 k5_numbers k1_hilbert1 (k2_nat_1 X2 X5) X4) = np_1) \wedge \\
& (\forall X6.(m1_subset_1 X6 k5_numbers) \Rightarrow ((r1_xxreal_0 np_1 \\
& X6) \Rightarrow ((r1_xxreal_0 X5 X6) \vee (k3_funct_2 (k2_zfmisc_1 k5_numbers \\
& k1_hilbert1) k6_margrel1 X1 (k1_domain_1 k5_numbers k1_hilbert1 \\
& (k2_nat_1 X2 X6) X3) = np_1)))))) \Rightarrow (k3_funct_2 (k2_zfmisc_1 k5_numbers \\
& k1_hilbert1) k6_margrel1 X1 (k1_domain_1 k5_numbers k1_hilbert1 \\
& X2 (k4_hilbert1 X3 X4) = np_1)))))))))
\end{aligned} \tag{6}$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_hilbert1) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k5_numbers) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 \\ & k5_numbers (k1_zfmisc_1 k10_ltlaxio1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 k5_numbers (k1_zfmisc_1 k10_ltlaxio1)))))) \Rightarrow (k3_funct_2 \\ & (k2_zfmisc_1 k5_numbers k1_hilbert1) k6_margrel1 (k11_ltlaxio1 \\ & X2) (k1_domain_1 k5_numbers k1_hilbert1 X1 (k3_hilbert1 (k2_ltlaxio1 \\ & (k1_ltlaxio1 X0)) (k1_ltlaxio1 (k2_ltlaxio1 X0)))) = np_1))) \end{aligned}$$