

t37_tsep_2

(TMU2Qep6XGeaY1N78WQaXiRvjhb9qmmh6A8)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $m1_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_tsep_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r4_tsep_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r2_tsep_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_tsep_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_pre_topc X1 X0) \Rightarrow (m1_subset_1 (u1_struct_0 X1) (k1_zfmisc_1 (u1_struct_0 X0)))) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X4.(m1_subset_1 X4 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((r2_tsep_2 X0 X1 X3) \wedge (r2_tsep_2 X0 X2 X4)) \Rightarrow ((r2_tsep_1 X0 X1 X2) \Leftrightarrow (r2_tsep_1 X0 X3 X4))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_pre_topc X1 X0) \Rightarrow (\forall X2.(m1_pre_topc X2 X0) \Rightarrow ((r4_tsep_1 X0 X1 X2) \Leftrightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X4.(m1_subset_1 X4 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (((X3 = u1_struct_0 X1) \wedge (X4 = u1_struct_0 X2)) \Rightarrow (r2_tsep_1 X0 X3 X4))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\
& X0))) \Rightarrow (\forall X1.(m1_pre_topc X1 X0) \Rightarrow (\forall X2.(m1_pre_topc \\
& X2 X0) \Rightarrow ((r3_tsep_2 X0 X1 X2) \Leftrightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 \\
& (u1_struct_0 X0))) \Rightarrow (\forall X4.(m1_subset_1 X4 (k1_zfmisc_1 \\
& (u1_struct_0 X0))) \Rightarrow ((X3 = u1_struct_0 X1) \wedge (X4 = u1_struct_0 X2)) \Rightarrow \\
& (r2_tsep_2 X0 X3 X4))))))
\end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\
& X0))) \Rightarrow (\forall X1.(m1_pre_topc X1 X0) \Rightarrow (\forall X2.(m1_pre_topc \\
& X2 X0) \Rightarrow (\forall X3.(m1_pre_topc X3 X0) \Rightarrow (\forall X4.(m1_pre_topc \\
& X4 X0) \Rightarrow (((r3_tsep_2 X0 X1 X3) \wedge ((r3_tsep_2 X0 X2 X4) \wedge (r4_tsep_1 \\
& X0 X1 X2))) \Rightarrow (r4_tsep_1 X0 X3 X4))))))
\end{aligned}$$