

t12_scmfsa8a

(TMTE m6PuyPPT6sCjZ5hCR16mKaSQsbBUDmx)

October 27, 2020

Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $k1_scmfsa_2 : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_scmfsa7b : \iota \Rightarrow o$ be given. Let $k1_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_ami_2 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r4_scmfsa7b : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k4_scmfsa_2 : \iota \Rightarrow \iota$ be given. Assume the following.

$$m1_subset_1 \ k1_xboole_0 \ k4_ordinal1 \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 \ X0) \wedge ((v4_relat_1 \ X0 \ k5_numbers) \wedge ((v5_relat_1 \\ & \ X0 \ (u1_compos_1 \ k1_scmfsa_2)) \wedge ((v1_funct_1 \ X0) \wedge (v1_finset_1 \\ & \ X0)))) \Rightarrow (\forall X1. ((v1_relat_1 \ X1) \wedge ((v4_relat_1 \ X1 \ k5_numbers) \wedge \\ & \ ((v5_relat_1 \ X1 \ (u1_compos_1 \ k1_scmfsa_2)) \wedge ((v1_funct_1 \ X1) \wedge \\ & \ (v1_finset_1 \ X1)))) \Rightarrow (\forall X2. ((v1_ami_2 \ X2) \wedge (m1_subset_1 \\ & \ X2 \ (u1_struct_0 \ k1_scmfsa_2))) \Rightarrow (\neg(\neg r4_scmfsa7b \ X0 \ X2) \wedge ((\neg r4_scmfsa7b \\ & \ X1 \ X2) \wedge (r4_scmfsa7b \ (k1_funct_4 \ X0 \ X1 \ X2)))))) \end{aligned} \tag{2}$$

Assume the following.

$$k6_numbers = k1_xboole_0 \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1_relat_1 \ X1) \wedge ((v4_relat_1 \\ & \ X1 \ X0) \wedge (v1_funct_1 \ X1))) \wedge ((v1_relat_1 \ X2) \wedge ((v4_relat_1 \ X2 \ X0) \wedge \\ & \ (v1_funct_1 \ X2)))) \Rightarrow ((v1_relat_1 \ (k1_funct_4 \ X1 \ X2)) \wedge ((v4_relat_1 \\ & \ (k1_funct_4 \ X1 \ X2) \ X0) \wedge (v1_funct_1 \ (k1_funct_4 \ X1 \ X2)))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1_relat_1 X1) \wedge ((v5_relat_1 \\ & X1 X0) \wedge (v1_funct_1 X1))) \wedge ((v1_relat_1 X2) \wedge ((v5_relat_1 X2 X0) \wedge \\ & (v1_funct_1 X2)))) \Rightarrow ((v1_relat_1 (k1_funct_4 X1 X2)) \wedge ((v5_relat_1 \\ & (k1_funct_4 X1 X2) X0) \wedge (v1_funct_1 (k1_funct_4 X1 X2)))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. (v7_ordinal1 X0) \Rightarrow ((v1_ami_2 (k4_scmfsa_2 X0)) \wedge (m1_subset_1 (k4_scmfsa_2 X0) (u1_struct_0 k1_scmfsa_2))) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \wedge ((\\ & v1_relat_1 X1) \wedge (v1_funct_1 X1))) \Rightarrow ((v1_relat_1 (k1_funct_4 X0 \\ & X1)) \wedge (v1_funct_1 (k1_funct_4 X0 X1))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\ & X0 (u1_compos_1 k1_scmfsa_2)) \wedge (v1_funct_1 X0)))) \Rightarrow ((v1_scmfsa7b \\ & X0) \Leftrightarrow (\neg r4_scmfsa7b X0 (k4_scmfsa_2 k6_numbers))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0. (((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\ & X0 (u1_compos_1 k1_scmfsa_2)) \wedge ((v1_funct_1 X0) \wedge ((v1_finset_1 \\ & X0) \wedge (v1_scmfsa7b X0)))))) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 \\ & X1 k5_numbers) \wedge ((v5_relat_1 X1 (u1_compos_1 k1_scmfsa_2)) \wedge \\ & (v1_funct_1 X1) \wedge ((v1_finset_1 X1) \wedge (v1_scmfsa7b X1)))))) \Rightarrow (v1_scmfsa7b \\ & (k1_funct_4 X0 X1))) \end{aligned}$$