

t8_waybel_5

(TMFY1n8tWkz5yoGVmvCEVzAa82Xgpkta4p1)

October 27, 2020

Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funcop_1 : \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_card_3 : \iota \Rightarrow \iota$ be given. Let $k2_funct_6 : \iota \Rightarrow \iota$ be given. Let $k2_pralg_2 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k15_pralg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_funcop_1 X0))) \Rightarrow (k9_xtuple_0 (k2_funct_6 X0) = k9_xtuple_0 X0) \quad (1)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_funcop_1 X0))) \Rightarrow ((v1_relat_1 (k2_pralg_2 X0)) \wedge ((v4_relat_1 (k2_pralg_2 X0) (k4_card_3 (k2_funct_6 X0))) \wedge ((v1_funct_1 (k2_pralg_2 X0)) \wedge (v1_partfun1 (k2_pralg_2 X0) (k4_card_3 (k2_funct_6 X0)))) \wedge (v1_funcop_1 (k2_pralg_2 X0)))))) \quad (2)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_relat_1 (k2_funct_6 X0)) \wedge (v1_funct_1 (k2_funct_6 X0))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_funcop_1 X0))) \wedge ((v1_relat_1 X1) \wedge (v1_funct_1 X1))) \Rightarrow ((v1_relat_1 (k15_pralg_1 X0 X1)) \wedge (v1_funct_1 (k15_pralg_1 X0 X1))) \quad (4)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. (X1 = k4_card_3 X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow (\exists X3. ((v1_relat_1 X3) \wedge (v1_funct_1 X3)) \wedge ((X2 = X3) \wedge ((k9_xtuple_0 X3 = k9_xtuple_0 X0) \wedge (\forall X4. (X4 \in k9_xtuple_0 X0) \Rightarrow (k1_funct_1 X3 X4 \in k1_funct_1 X0 X4))))))) \quad (5)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_funcop_1 X0))) \Rightarrow \\
& (\forall X1.((v1_relat_1 X1) \wedge ((v4_relat_1 X1 (k4_card_3 (k2_funct_6 \\
& X0))) \wedge ((v1_funct_1 X1) \wedge ((v1_partfun1 X1 (k4_card_3 (k2_funct_6 \\
& X0))) \wedge (v1_funcop_1 X1)))))) \Rightarrow ((X1 = k2_pralg_2 X0) \Leftrightarrow (\forall X2. \\
& ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((X2 \in k4_card_3 (k2_funct_6 \\
& X0)) \Rightarrow (k1_funct_1 X1 X2 = k15_pralg_1 X0 X2))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (\\
& (v1_partfun1 X1 X0) \Leftrightarrow (k1_relset_1 X0 X1 = X0))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_funcop_1 X0))) \Rightarrow \\
& (\forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. (\\
& (v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((X2 = k15_pralg_1 X0 X1) \Leftrightarrow (\\
& k9_xtuple_0 X2 = k9_xtuple_0 X0) \wedge (\forall X3. (X3 \in k9_xtuple_0 \\
& X0) \Rightarrow (k1_funct_1 X2 X3 = k1_funct_1 (k1_funct_1 X0 X3) (k1_funct_1 \\
& X1 X3))))))
\end{aligned} \tag{8}$$

Theorem 1

$$\begin{aligned}
& \forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_funcop_1 X0))) \Rightarrow \\
& (\forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((X1 \in k1_relset_1 \\
& (k4_card_3 (k2_funct_6 X0)) (k2_pralg_2 X0)) \Rightarrow ((k9_xtuple_0 X1 = \\
& k9_xtuple_0 X0) \wedge (k9_xtuple_0 X0 = k9_xtuple_0 (k1_funct_1 (k2_pralg_2 \\
& X0) X1))))))
\end{aligned}$$