

t4_yellow17 (TMXeKKGfaKWqmJyGjHP-
wUEkkSowaQBZ1cfy)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k8_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_card_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_card_3 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_relat_1 (k12_card_3 X0 X1)) \wedge (v1_funct_1 (k12_card_3 X0 X1))) \quad (1)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. \forall X2. (X2 = k8_relat_1 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in k9_xtuple_0 X0) \wedge (k1_funct_1 X0 X3 \in X1)))) \quad (2)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. (X1 = k4_card_3 X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow (\exists X3. ((v1_relat_1 X3) \wedge (v1_funct_1 X3)) \wedge ((X2 = X3) \wedge ((k9_xtuple_0 X3 = k9_xtuple_0 X0) \wedge (\forall X4. (X4 \in k9_xtuple_0 X0) \Rightarrow (k1_funct_1 X3 X4 \in k1_funct_1 X0 X4)))))))) \quad (3)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. \forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((X2 = k12_card_3 X0 X1) \Leftrightarrow ((k9_xtuple_0 X2 = k4_card_3 X0) \wedge (\forall X3. ((v1_relat_1 X3) \wedge (v1_funct_1 X3)) \Rightarrow ((X3 \in k9_xtuple_0 X2) \Rightarrow (k1_funct_1 X2 X3 = k1_funct_1 X3 X1)))))) \quad (4)$$

Theorem 1

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. (X1 \in k9_xtuple_0 X0) \Rightarrow (k8_relat_1 (k12_card_3 X0 X1) (k1_funct_1 X0 X1) = k4_card_3 X0))$$