

t54_funct_1
(TMQU_{nv}NE99ZKNDka11eGcpziyvuj47Jp1Qy)

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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 $k6_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. \\ & ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((X1 = k6_relat_1 X0 X2) \Leftrightarrow (\\ & \forall X3. (X3 \in k9_xtuple_0 X1) \Leftrightarrow ((X3 \in k9_xtuple_0 X2) \wedge (k1_funct_1 \\ & X2 X3 \in X0))) \wedge (\forall X3. (X3 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 X1 X3 = \\ & k1_funct_1 X2 X3)))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((v1_relat_1 (k6_relat_1 X0 X1)) \wedge (v1_funct_1 (k6_relat_1 X0 X1))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (v1_relat_1 X1) \Rightarrow (v1_relat_1 (k6_relat_1 X0 X1)) \quad (3)$$

Theorem 1

$$\forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((X0 \in k9_xtuple_0 (k6_relat_1 X1 X2)) \Leftrightarrow ((X0 \in k9_xtuple_0 X2) \wedge (k1_funct_1 X2 X0 \in X1)))$$