

t17_cohsp_1
(TMK1ZbyPFvJ1nEETMCjD2pHLNs9o9G2orYA)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v4_cohspace_1 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_tarski : \iota \Rightarrow \iota$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. k3_tarski (k2_tarski X0 X1) = k2_xboole_0 X0 X1 \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 \\ & X2)) \Rightarrow (((X0 \in k9_xtuple_0 X2) \wedge (X1 \in k9_xtuple_0 X2)) \Rightarrow (k7_relat_1 \\ & X2 (k2_tarski X0 X1) = k2_tarski (k1_funct_1 X2 X0) (k1_funct_1 X2 \\ & X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (r1_tarski (k2_tarski X0 X1) X2) \Leftrightarrow ((X0 \in X2) \wedge (X1 \in X2)) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v4_cohspace_1 X0) \Leftrightarrow \\ & (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (k9_xtuple_0 X0))) \Rightarrow \\ & ((k3_tarski X1 \in k9_xtuple_0 X0) \Rightarrow (k1_funct_1 X0 (k3_tarski X1) = \\ & k3_tarski (k7_relat_1 X0 X1)))))) \end{aligned} \quad (5)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v4_cohspace_1 X0) \Rightarrow \\ & (\forall X1. \forall X2. ((X1 \in k9_xtuple_0 X0) \wedge ((X2 \in k9_xtuple_0 \\ & X0) \wedge (k2_xboole_0 X1 X2 \in k9_xtuple_0 X0))) \Rightarrow (k1_funct_1 X0 (k2_xboole_0 \\ & X1 X2) = k2_xboole_0 (k1_funct_1 X0 X1) (k1_funct_1 X0 X2)))) \end{aligned}$$