

t40_sysrel
(TMSK73vxiYttR78G2iLcyMYkUEUAw3j5JMt)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_relat_1 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k1_sysrel : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(v1_relat_1 X1) \Rightarrow (((\\ & k3_relat_1 X0 X1 = X0) \wedge (k3_relat_1 X1 (k6_subset_1 X1 (k4_relat_1 \\ & (k9_xtuple_0 X1))) = k1_xboole_0) \Rightarrow (r1_tarski (k1_sysrel X0) \\ & (k1_sysrel X1))) \wedge (((k3_relat_1 X1 X0 = X0) \wedge (k3_relat_1 (k6_subset_1 \\ & X1 (k4_relat_1 (k9_xtuple_0 X1))) X1 = k1_xboole_0) \Rightarrow (r1_tarski \\ & (k1_sysrel X0) (k1_sysrel X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1) \Leftrightarrow ((r1_tarski X0 X1) \wedge (r1_tarski X1 X0)) \quad (2)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(v1_relat_1 X1) \Rightarrow (((\\ & k3_relat_1 X0 X1 = X0) \wedge ((k3_relat_1 X1 (k6_subset_1 X1 (k4_relat_1 \\ & (k9_xtuple_0 X1))) = k1_xboole_0) \wedge ((k3_relat_1 X1 X0 = X1) \wedge (k3_relat_1 \\ & X0 (k6_subset_1 X0 (k4_relat_1 (k9_xtuple_0 X0))) = k1_xboole_0)))) \Rightarrow \\ & (k1_sysrel X0 = k1_sysrel X1) \wedge (((k3_relat_1 X1 X0 = X0) \wedge ((k3_relat_1 \\ & (k6_subset_1 X1 (k4_relat_1 (k9_xtuple_0 X1))) X1 = k1_xboole_0) \wedge \\ & ((k3_relat_1 X0 X1 = X1) \wedge (k3_relat_1 (k6_subset_1 X0 (k4_relat_1 \\ & (k9_xtuple_0 X0))) X0 = k1_xboole_0)))) \Rightarrow (k1_sysrel X0 = k1_sysrel \\ & X1)))) \end{aligned}$$