

t18_compos_2 (TMN- nTVNB8XZ4L5YDUsZg4VVzpk2osHvFCzY)

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Let $v1_amistd_4 : \iota \Rightarrow o$ be given. Let $l1_compos_1 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_afinsq_1 : \iota \Rightarrow o$ be given. Let $v4_compos_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_compos_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k63_valued_1 : \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_compos_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k62_valued_1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_compos_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.((\\ & v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((r1_tarski X0 X1) \Rightarrow (\forall X2. \\ & \forall X3.(\neg X2 \in k10_xtuple_0 X0) \Rightarrow (r1_tarski X0 (k6_subset_1 \\ & X1 (k16_funcop_1 X3 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1_amistd_4 X0) \wedge (l1_compos_1 X0)) \wedge \\ & ((\neg v1_xboole_0 X1) \wedge ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge \\ & ((v5_relat_1 X1 (u1_compos_1 X0)) \wedge ((v1_funct_1 X1) \wedge ((v1_finset_1 \\ & X1) \wedge (v4_compos_1 X1 X0)))))))) \Rightarrow ((v1_relat_1 (k63_valued_1 X1)) \wedge \\ & ((v1_funct_1 (k63_valued_1 X1)) \wedge (v2_compos_1 (k63_valued_1 \\ & X1) X0))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((v1_relat_1 X1) \wedge (\\ & (v4_relat_1 X1 k5_numbers) \wedge ((v5_relat_1 X1 X0) \wedge ((v1_funct_1 \\ & X1) \wedge ((\neg v1_xboole_0 X1) \wedge (v1_finset_1 X1)))))) \Rightarrow ((v1_relat_1 \\ & (k63_valued_1 X1)) \wedge ((v5_relat_1 (k63_valued_1 X1) X0) \wedge (v1_funct_1 \\ & (k63_valued_1 X1)))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 \ k5_numbers) \wedge ((v1_funct_1 X0) \wedge ((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)))))) \Rightarrow ((v1_relat_1 (k63_valued_1 X0)) \wedge (v1_funct_1 (k63_valued_1 X0))) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. k16_funcop_1 X0 X1 = k7_funcop_1 (k1_tarski X0) X1 \quad (5)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 \ k5_numbers) \wedge ((v1_funct_1 X0) \wedge ((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)))))) \Rightarrow (k63_valued_1 X0 = k6_subset_1 X0 (k16_funcop_1 (k62_valued_1 X0) (k1_funct_1 X0 (k62_valued_1 X0)))) \quad (6)$$

Assume the following.

$$\forall X0. (l1_compos_1 X0) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 \ k5_numbers) \wedge ((v5_relat_1 X1 (u1_compos_1 X0)) \wedge ((v1_funct_1 X1) \wedge (v1_finset_1 X1))))))) \Rightarrow ((v3_compos_1 X1 X0) \Leftrightarrow (k1_funct_1 X1 (k62_valued_1 X1) = k2_compos_1 X0)) \quad (7)$$

Assume the following.

$$\forall X0. (l1_compos_1 X0) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge ((v5_relat_1 X1 (u1_compos_1 X0)) \wedge (v1_funct_1 X1)))) \Rightarrow ((v2_compos_1 X1 X0) \Leftrightarrow (\neg k2_compos_1 X0 \in k10_xtuple_0 X1)) \quad (8)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge (v5_relat_1 X1 X0))) \Rightarrow ((v1_xboole_0 X1) \wedge ((v1_relat_1 X1) \wedge (v5_relat_1 X1 X0))) \quad (9)$$

Theorem 1

$$\forall X0. ((v1_amistd_4 X0) \wedge (l1_compos_1 X0)) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 \ k5_numbers) \wedge ((v5_relat_1 X1 (u1_compos_1 X0)) \wedge ((v1_funct_1 X1) \wedge ((v1_finset_1 X1) \wedge ((v1_afinsq_1 X1) \wedge (v4_compos_1 X1 X0)))))))))) \Rightarrow (\forall X2. ((\neg v1_xboole_0 X2) \wedge ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 \ k5_numbers) \wedge ((v5_relat_1 X2 (u1_compos_1 X0)) \wedge ((v1_funct_1 X2) \wedge ((v1_finset_1 X2) \wedge ((v1_afinsq_1 X2) \wedge (v3_compos_1 X2 X0)))))))))) \Rightarrow ((r1_tarski (k63_valued_1 X1) X2) \Rightarrow (r1_tarski (k63_valued_1 X1) (k63_valued_1 X2)))) \quad (9)$$