

t20_compos_2 (TM- MQFQP14Zqq9UpzuHYxM1kLXyDtHzdS8Gy)

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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 $v3_compos.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_compos.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct.4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k63_valued.1 : \iota \Rightarrow \iota$ be given. Let $k16_funcop.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k62_valued.1 : \iota \Rightarrow \iota$ be given. Let $k2_compos.1 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple.0 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xboole.0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k2_xboole.0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xboole.0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_relset.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_funcop.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_xtuple.0 : \iota \Rightarrow \iota$ be given. Let $k7_funcop.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_subset.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. ((v1_relat.1 X1) \wedge (v1_funct.1 X1)) \Rightarrow ((X0 \in k9_xtuple.0 X1) \Rightarrow (r1_tarski (k16_funcop.1 X0 (k1_funct.1 X1 X0)) X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (\neg X0 \in X1) \Rightarrow (r1_xboole.0 (k1_tarski X0) X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Rightarrow (X1 = k2_xboole.0 X0 (k4_xboole.0 X1 X0)) \quad (3)$$

Assume the following.

$$\forall X0. ((v1_relat.1 X0) \wedge (v1_funct.1 X0)) \Rightarrow (\forall X1. ((v1_relat.1 X1) \wedge (v1_funct.1 X1)) \Rightarrow ((r1_xboole.0 (k9_xtuple.0 X0) (k9_xtuple.0 X1)) \Rightarrow (k2_xboole.0 X0 X1 = k1_funct.4 X0 X1))) \quad (4)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 \ k5_numbers) \wedge ((v1_funct_1 X0) \wedge ((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)))))) \Rightarrow (k62_valued_1 X0 \in k1_relset_1 \ k5_numbers \ X0) \quad (5)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 \ k5_numbers) \wedge ((v1_funct_1 X0) \wedge (v1_finset_1 X0)))))) \Rightarrow (\neg k62_valued_1 X0 \in k9_xtuple_0 \ (k63_valued_1 \ X0)) \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. (k9_xtuple_0 \ (k2_funcop_1 \ X0 \ X1) = X0) \wedge (r1_tarski \ (k10_xtuple_0 \ (k2_funcop_1 \ X0 \ X1)) \ (k1_tarski \ X1)) \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. (r1_xboole_0 \ X0 \ X1) \Rightarrow (r1_xboole_0 \ X1 \ X0) \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. k7_funcop_1 \ X0 \ X1 = k2_funcop_1 \ X0 \ X1 \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. k6_subset_1 \ X0 \ X1 = k4_xboole_0 \ X0 \ X1 \quad (10)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 \ X1) \wedge (v4_relat_1 \ X1 \ X0)) \Rightarrow (k1_relset_1 \ X0 \ X1 = k9_xtuple_0 \ X1) \quad (11)$$

Assume the following.

$$\forall X0. \forall X1. (v1_relat_1 \ (k16_funcop_1 \ X0 \ X1)) \wedge (v1_funct_1 \ (k16_funcop_1 \ X0 \ X1)) \quad (12)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 \ k5_numbers) \wedge ((v1_funct_1 X0) \wedge ((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)))))) \Rightarrow ((v1_relat_1 \ (k63_valued_1 \ X0)) \wedge (v1_funct_1 \ (k63_valued_1 \ X0))) \quad (13)$$

Assume the following.

$$\forall X0. \forall X1. k16_funcop_1 \ X0 \ X1 = k7_funcop_1 \ (k1_tarski \ X0) \ X1 \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.k2_funcop_1 X0 X1 = k2_zfmisc_1 X0 (k1_tarSKI X1) \quad (15)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v4_relat_1 X0 k5_numbers)\wedge((v1_funct_1 X0)\wedge((\neg v1_xboole_0 X0)\wedge(v1_finset_1 X0))))))\Rightarrow(k63_valued_1 X0 = k6_subset_1 X0 (k16_funcop_1 (k62_valued_1 X0) (k1_funct_1 X0 (k62_valued_1 X0)))) \quad (16)$$

Assume the following.

$$\forall X0.(l1_compos_1 X0)\Rightarrow(\forall X1.((\neg v1_xboole_0 X1)\wedge((v1_relat_1 X1)\wedge(v4_relat_1 X1 k5_numbers)\wedge((v5_relat_1 X1 (u1_compos_1 X0))\wedge((v1_funct_1 X1)\wedge(v1_finset_1 X1))))))\Rightarrow((v3_compos_1 X1 X0)\Leftrightarrow(k1_funct_1 X1 (k62_valued_1 X1) = k2_compos_1 X0)) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.k2_xboole_0 X0 X1 = k2_xboole_0 X1 X0 \quad (18)$$

Theorem 1

$$\forall X0.((v1_amistd_4 X0)\wedge(l1_compos_1 X0))\Rightarrow(\forall X1.((\neg v1_xboole_0 X1)\wedge((v1_relat_1 X1)\wedge((v4_relat_1 X1 k5_numbers)\wedge((v5_relat_1 X1 (u1_compos_1 X0))\wedge((v1_funct_1 X1)\wedge(v1_finset_1 X1)\wedge((v1_afinsq_1 X1)\wedge((v3_compos_1 X1 X0)\wedge(v4_compos_1 X1 X0))))))))))\Rightarrow(X1 = k1_funct_4 (k63_valued_1 X1) (k16_funcop_1 (k62_valued_1 X1) (k2_compos_1 X0)))$$