

t21_compos_2

(TMWFEB1edCcP8FKBWTfz78GADvN8Stx6CXp)

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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 $k63_valued.1 : \iota \Rightarrow \iota$ be given. Let $k16_funcop.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k62_valued.1 : \iota \Rightarrow \iota$ be given. Let $k7_nat.d : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_card.1 : \iota \Rightarrow \iota$ be given. Let $np.1 : \iota$ be given. Let $k1_card.1 : \iota \Rightarrow \iota$ be given. Let $k6_xcmplx.0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xreal.0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct.4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_compos.1 : \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k1_xboole.0 : \iota$ be given. Let $v5_ordinal1 : \iota \Rightarrow o$ be given. Let $k9_xtuple.0 : \iota \Rightarrow \iota$ be given. Let $k3_afinsq.1 : \iota \Rightarrow \iota$ be given. Let $k4_compos.1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. k16_funcop.1 X0 X1 = k1_tarski (k4_tarski X0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1_relat.1 X0) \wedge ((v4_relat.1 X0 k5_numbers) \wedge ((v1_funct.1 \\ X0) \wedge ((\neg v1_xboole.0 X0) \wedge ((v1_finset.1 X0) \wedge (v1_afinsq.1 X0))))) \Rightarrow \\ (k62_valued.1 X0 = k7_nat.d (k5_card.1 X0) np.1) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. (k1_card.1 X0 = np.1) \Leftrightarrow (\exists X1. X0 = k1_tarski X1) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1_relat.1 X0) \wedge ((v4_relat.1 X0 k5_numbers) \wedge ((v1_funct.1 \\ X0) \wedge ((\neg v1_xboole.0 X0) \wedge (v1_finset.1 X0)))) \Rightarrow (k5_card.1 (k63_valued.1 \\ X0) = k6_xcmplx.0 (k5_card.1 X0) np.1) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)) \Rightarrow (k6_xcmplx_0 (k5_card_1 X0) np_1 = k1_xreal_0 (k5_card_1 X0) np_1) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_amistd_4 X0) \wedge (l1_compos_1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v1_xboole_0 X1) \wedge ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge \\ & (v5_relat_1 X1 (u1_compos_1 X0)) \wedge ((v1_funct_1 X1) \wedge ((v1_finset_1 \\ & X1) \wedge ((v1_afinsq_1 X1) \wedge ((v3_compos_1 X1 X0) \wedge (v4_compos_1 X1 X0)))))) \Rightarrow \\ & (X1 = k1_funct_4 (k63_valued_1 X1) (k16_funcop_1 (k62_valued_1 \\ & X1) (k2_compos_1 X0)))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. ((v7_ordinal1 X0) \wedge (v7_ordinal1 X1)) \Rightarrow (k7_nat_d X0 X1 = k1_xreal_0 X0 X1) \quad (7)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (8)$$

Assume the following.

$$\forall X0. (v1_finset_1 X0) \Rightarrow (k5_card_1 X0 = k1_card_1 X0) \quad (9)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge ((v5_ordinal1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finset_1 X0)))) \Rightarrow (k1_card_1 X0 = k9_xtuple_0 X0) \quad (10)$$

Assume the following.

$$\forall X0. (v5_ordinal1 (k3_afinsq_1 X0)) \wedge (v1_finset_1 (k3_afinsq_1 X0)) \quad (11)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge ((v5_ordinal1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finset_1 X0)))) \Rightarrow (v7_ordinal1 (k9_xtuple_0 X0)) \quad (12)$$

Assume the following.

$$\forall X0. \forall X1. (v1_relat_1 (k16_funcop_1 X0 X1)) \wedge (v1_funct_1 (k16_funcop_1 X0 X1)) \quad (13)$$

Assume the following.

$$\forall X0. k3_afinsq_1 X0 = k16_funcop_1 k6_numbers X0 \quad (14)$$

Assume the following.

$$\forall X0.(l1_compos_1 X0) \Rightarrow (k4_compos_1 X0 = k3_afinsq_1 (k2_compos_1 X0)) \quad (15)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_afinsq_1 X0)))))) \Rightarrow ((v1_relat_1 X0) \wedge ((v5_ordinal1 X0) \wedge (v1_funct_1 X0))) \quad (16)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_amistd_4 X0) \wedge (l1_compos_1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v1_xboole_0 X1) \wedge ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge \\ & ((v5_relat_1 X1 (u1_compos_1 X0)) \wedge ((v1_funct_1 X1) \wedge ((v1_finset_1 \\ & X1) \wedge ((v1_afinsq_1 X1) \wedge ((v3_compos_1 X1 X0) \wedge (v4_compos_1 X1 X0)))))))))) \Rightarrow \\ & (\forall X2.((\neg v1_xboole_0 X2) \wedge ((v1_relat_1 X2) \wedge ((v4_relat_1 \\ & X2 k5_numbers) \wedge ((v5_relat_1 X2 (u1_compos_1 X0)) \wedge ((v1_funct_1 \\ & X2) \wedge ((v1_finset_1 X2) \wedge ((v1_afinsq_1 X2) \wedge ((v3_compos_1 X2 X0) \wedge \\ & (v4_compos_1 X2 X0)))))))))) \Rightarrow ((k63_valued_1 X1 = k63_valued_1 \\ & X2) \Rightarrow (X1 = X2))) \end{aligned}$$