

t67_funct_7

(TMM2Kn1PwQtS6SNZErk39VpJETyQUcWYcPd)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v2_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $m2_funct_7 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k4_funct_7 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k6_funct_7 : \iota \Rightarrow \iota$ be given. Let $k7_funct_7 : \iota \Rightarrow \iota$ be given. Let $v1_funct_7 : \iota \Rightarrow o$ be given. Let $v1_funcop_1 : \iota \Rightarrow o$ be given. Let $k6_partfun1 : \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_0 : \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_relat_1 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_card_1 : \iota \Rightarrow o$ be given. Let $k4_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_relat_1 X0) \wedge ((v2_relat_1 \\ & X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0)))))) \Rightarrow (\forall X1.(m2_funct_7 \\ & X1 X0) \Rightarrow ((X1 \neq k1_xboole_0) \Rightarrow ((k6_funct_7 X1 = k1_funct_1 X0 np_1) \wedge \\ & (r1_tarski (k7_funct_7 X1) (k1_funct_1 X0 (k3_finseq_1 X0)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v1_finseq_1 \\ & X0) \wedge (v1_funct_7 X0)))) \Rightarrow (k9_xtuple_0 (k4_funct_7 (k6_funct_7 \\ & X0) X0) = k6_funct_7 X0) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge((v1_funcop_1 X1)\wedge(v1_finseq_1 X1))))\Rightarrow((X1\neq k1_xboole_0)\Rightarrow(r1_tarski (k10_xtuple_0 (k4_funct_7 X0 X1) (k7_funct_7 X1)))) \quad (4)$$

Assume the following.

$$\forall X0.k4_funct_7 X0 k1_xboole_0 = k6_partfun1 X0 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((r1_tarski X0 X1)\wedge(r1_tarski X1 X2))\Rightarrow(r1_tarski X0 X2) \quad (6)$$

Assume the following.

$$((v2_xxreal_0 np_1)\wedge(m2_subset_1 np_1 k1_numbers k5_numbers))\wedge((m1_subset_1 np_1 k5_numbers)\wedge(m1_subset_1 np_1 k1_numbers)) \quad (7)$$

Assume the following.

$$(m2_subset_1 np_0 k1_numbers k5_numbers)\wedge((m1_subset_1 np_0 k5_numbers)\wedge(m1_subset_1 np_0 k1_numbers)) \quad (8)$$

Assume the following.

$$v1_xboole_0 np_0 \quad (9)$$

Assume the following.

$$k2_xcmplx_0 np_1 np_0 = np_1 \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.r1_tarski X0 X0 \quad (11)$$

Assume the following.

$$\forall X0.k6_partfun1 X0 = k4_relat_1 X0 \quad (12)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (13)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finseq_1 X0)))\Rightarrow(k3_finseq_1 X0 = k1_card_1 X0) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k5_numbers)\wedge(v7_ordinal1 X1))\Rightarrow(k2_nat_1 X0 X1 = k2_xcmplx_0 X0 X1) \quad (15)$$

Assume the following.

$$\forall X0.k10_xtuple_0 (k4_relat_1 X0) = X0 \quad (16)$$

Assume the following.

$$\forall X0.k9_xtuple_0 (k4_relat_1 X0) = X0 \quad (17)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow ((v1_xboole_0 (k1_card_1 X0)) \wedge (v1_card_1 (k1_card_1 X0))) \quad (18)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_relat_1 X0) \wedge ((v2_relat_1 \\ X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0)))))) \Rightarrow (\forall X1.(m2_funct_7 \\ X1 X0) \Rightarrow ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1)))) \quad (19) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_relat_1 X0) \wedge ((v2_relat_1 \\ X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0)))))) \Rightarrow (\forall X1.((v1_relat_1 \\ X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \Rightarrow ((m2_funct_7 X1 X0) \Leftrightarrow \\ ((k2_nat_1 (k3_finseq_1 X1) np_1 = k3_finseq_1 X0) \wedge (\forall X2. \\ (m1_subset_1 X2 k5_numbers) \Rightarrow ((X2 \in k4_finseq_1 X1) \Rightarrow (k1_funct_1 \\ X1 X2 \in k1_funct_2 (k1_funct_1 X0 X2) (k1_funct_1 X0 (k2_nat_1 X2 \\ np_1)))))))))) \quad (20) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k5_numbers) \wedge (v7_ordinal1 X1)) \Rightarrow (k2_nat_1 X0 X1 = k2_nat_1 X1 X0) \quad (21)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (22)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_relat_1 X0) \wedge ((v2_relat_1 \\ X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0)))))) \Rightarrow (\forall X1.(m2_funct_7 \\ X1 X0) \Rightarrow ((v2_relat_1 X1) \wedge (v1_funct_7 X1))) \quad (23) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v1_finseq_1 \\ X0) \wedge (v1_funct_7 X0)))) \Rightarrow ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge \\ (v1_funcop_1 X0) \wedge (v1_finseq_1 X0))) \quad (24) \end{aligned}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_relat_1 X0) \wedge ((v2_relat_1 \\ & X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0)))))) \Rightarrow (\forall X1.(m2_funct_7 \\ X1 X0) \Rightarrow ((k9_xtuple_0 (k4_funct_7 (k1_funct_1 X0 np_1) X1) = k1_funct_1 \\ X0 np_1) \wedge (r1_tarSKI (k10_xtuple_0 (k4_funct_7 (k1_funct_1 X0 \\ np_1) X1)) (k1_funct_1 X0 (k3_finseq_1 X0)))))) \end{aligned}$$