

t56_pre_poly
(TMatiprm9hCTEo5tfeGhGK8gFPf4Aw8iF4k)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_valued_0 : \iota \Rightarrow o$ be given. Let $v2_pre_poly : \iota \Rightarrow o$ be given. Let $r6_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k12_pre_poly : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_pre_poly : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k1_xreal_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k8_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k7_nat_d : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. k1_funct_1 (k16_pre_poly X0) X1 = k6_numbers \quad (1)$$

Assume the following.

$$\forall X0. (v1_xreal_0 X0) \Rightarrow (k1_xreal_0 X0 X0 = k6_numbers) \quad (2)$$

Assume the following.

$$m1_subset_1 k1_xboole_0 k4_ordinal1 \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1_relat_1 X1) \wedge (v4_relat_1 \\ & X1 X0) \wedge ((v1_funct_1 X1) \wedge (v1_partfun1 X1 X0))) \wedge ((v1_relat_1 \\ & X2) \wedge ((v4_relat_1 X2 X0) \wedge ((v1_funct_1 X2) \wedge (v1_partfun1 X2 X0)))) \Rightarrow \\ & ((r6_pboole X0 X1 X2) \Leftrightarrow (X1 = X2)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X2 X0)) \Rightarrow (k8_funcop_1 X0 X1 X2 = k2_funcop_1 X1 X2) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1\ X0)\wedge(v7_ordinal1\ X1))\Rightarrow(k7_nat_d\ X0\ X1 = k1_xreal_0\ X0\ X1) \quad (6)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (7)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (8)$$

Assume the following.

$$(\neg v1_xboole_0\ k4_ordinal1)\wedge(v3_ordinal1\ k4_ordinal1) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge(v4_valued_0\ X0)))\Rightarrow(v7_ordinal1\ (k1_funct_1\ X0\ X1)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(v1_relat_1\ (k2_funcop_1\ X0\ X1))\wedge((v4_relat_1\ (k2_funcop_1\ X0\ X1)\ X0)\wedge((v1_funct_1\ (k2_funcop_1\ X0\ X1))\wedge(v1_partfun1\ (k2_funcop_1\ X0\ X1)\ X0))) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(v1_relat_1\ (k2_funcop_1\ X0\ X1))\wedge(v1_funct_1\ (k2_funcop_1\ X0\ X1)) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.v4_relat_1\ (k2_funcop_1\ X0\ X1)\ X0 \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1\ X1)\wedge((v4_relat_1\ X1\ X0)\wedge((v1_funct_1\ X1)\wedge((v1_partfun1\ X1\ X0)\wedge(v4_valued_0\ X1))))))\Rightarrow(\forall X2.((v1_relat_1\ X2)\wedge((v4_relat_1\ X2\ X0)\wedge((v1_funct_1\ X2)\wedge((v1_partfun1\ X2\ X0)\wedge(v4_valued_0\ X2))))))\Rightarrow(\forall X3.((v1_relat_1\ X3)\wedge((v4_relat_1\ X3\ X0)\wedge((v1_funct_1\ X3)\wedge(v1_partfun1\ X3\ X0))))\Rightarrow((X3 = k12_pre_poly\ X0\ X1\ X2)\Leftrightarrow(\forall X4.k1_funct_1\ X3\ X4 = k7_nat_d\ (k1_funct_1\ X1\ X4)\ (k1_funct_1\ X2\ X4)))))) \quad (14)$$

Assume the following.

$$\forall X0.k16_pre_poly\ X0 = k8_funcop_1\ k5_numbers\ X0\ k6_numbers \quad (15)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(v1_xreal_0\ X0) \quad (16)$$

Theorem 1

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge((v4_relat_1 X1 X0)\wedge(v1_funct_1 X1)\wedge((v1_partfun1 X1 X0)\wedge((v4_valued_0 X1)\wedge(v2_pre_poly X1))))))\Rightarrow(r6_pboole X0 (k12_pre_poly X0 X1 X1) (k16_pre_poly X0))$$