

t59_pre_poly (TMWCccyp- BCc4o3dtLL6UFZbM6vcZq1hfGXA)

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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 $r3_pre_poly : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k16_pre_poly : \iota \Rightarrow \iota$ 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 $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k7_nat_d : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k15_pre_poly : \iota \Rightarrow \iota$ be given. Let $k14_pre_poly : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge \\ & (v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge ((v4_valued_0 X1) \wedge (v2_pre_poly \\ & X1)))))) \Rightarrow (r6_pboole X0 (k12_pre_poly X0 (k16_pre_poly X0) X1) \\ & (k16_pre_poly X0)) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. k1_funct_1 (k16_pre_poly X0) X1 = k6_numbers \tag{2}$$

Assume the following.

$$\forall X0. (v7_ordinal1 X0) \Rightarrow (\forall X1. (v7_ordinal1 X1) \Rightarrow ((k7_nat_d X0 X1 = k6_numbers) \Rightarrow (r1_xxreal_0 X0 X1))) \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \tag{4}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((v1_relat_1 X1)\wedge((v4_relat_1 \\ X1 X0)\wedge((v1_funct_1 X1)\wedge(v1_partfun1 X1 X0))))\wedge((v1_relat_1 \\ X2)\wedge((v4_relat_1 X2 X0)\wedge((v1_funct_1 X2)\wedge(v1_partfun1 X2 X0))))))\Rightarrow \\ ((r6_pboole X0 X1 X2)\Leftrightarrow(X1 = X2)) \end{aligned} \quad (5)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (6)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (7)$$

Assume the following.

$$\forall X0.k15_pre_poly X0 = k14_pre_poly X0 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v4_valued_0 \\ X0)))\Rightarrow(v7_ordinal1 (k1_funct_1 X0 X1)) \quad (9)$$

Assume the following.

$$\forall X0.\neg v1_xboole_0 (k14_pre_poly X0) \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((v1_relat_1 X1)\wedge((v4_relat_1 \\ X1 X0)\wedge((v1_funct_1 X1)\wedge((v1_partfun1 X1 X0)\wedge((v4_valued_0 X1)\wedge \\ (v2_pre_poly X1))))))\wedge((v1_relat_1 X2)\wedge((v4_relat_1 X2 X0)\wedge \\ ((v1_funct_1 X2)\wedge((v1_partfun1 X2 X0)\wedge((v4_valued_0 X2)\wedge(v2_pre_poly \\ X2)))))))\Rightarrow((v1_relat_1 (k12_pre_poly X0 X1 X2))\wedge((v4_relat_1 \\ (k12_pre_poly X0 X1 X2) X0)\wedge((v1_funct_1 (k12_pre_poly X0 X1 X2))\wedge \\ ((v1_partfun1 (k12_pre_poly X0 X1 X2) X0)\wedge(v2_pre_poly (k12_pre_poly \\ X0 X1 X2)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 \\ X2 X0 X1)\Rightarrow(m1_subset_1 X2 X0)) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.m2_subset_1 (k16_pre_poly X0) (k14_pre_poly X0) (k15_pre_poly \\ X0) \quad (13)$$

Assume the following.

$$\forall X0.m1_subset_1 (k15_pre_poly X0) (k1_zfmisc_1 (k14_pre_poly X0)) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_relat_1 X1)\wedge((v4_relat_1 X1 X0)\wedge \\ & (v1_funct_1 X1)\wedge((v1_partfun1 X1 X0)\wedge(v4_valued_0 X1))))\Rightarrow(\\ & \forall X2.((v1_relat_1 X2)\wedge((v4_relat_1 X2 X0)\wedge((v1_funct_1 \\ & X2)\wedge((v1_partfun1 X2 X0)\wedge(v4_valued_0 X2))))\Rightarrow(\forall X3.(\\ & (v1_relat_1 X3)\wedge((v4_relat_1 X3 X0)\wedge((v1_funct_1 X3)\wedge(v1_partfun1 \\ & X3 X0))))\Rightarrow((X3 = k12_pre_poly X0 X1 X2)\Leftrightarrow(\forall X4.k1_funct_1 \\ & X3 X4 = k7_nat_d (k1_funct_1 X1 X4) (k1_funct_1 X2 X4)))) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.k16_pre_poly X0 = k8_funcop_1 k5_numbers X0 k6_numbers \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(X1 = k14_pre_poly X0)\Leftrightarrow(\forall X2.(X2 \in \\ & X1)\Leftrightarrow((v1_relat_1 X2)\wedge((v4_relat_1 X2 X0)\wedge((v1_funct_1 X2)\wedge(\\ & (v1_partfun1 X2 X0)\wedge((v4_valued_0 X2)\wedge(v2_pre_poly X2)))))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_relat_1 X1)\wedge((v4_relat_1 X1 X0)\wedge \\ & (v1_funct_1 X1)\wedge((v1_partfun1 X1 X0)\wedge((v4_valued_0 X1)\wedge(v2_pre_poly \\ & X1))))\Rightarrow(\forall X2.((v1_relat_1 X2)\wedge((v4_relat_1 X2 X0)\wedge \\ & (v1_funct_1 X2)\wedge((v1_partfun1 X2 X0)\wedge((v4_valued_0 X2)\wedge(v2_pre_poly \\ & X2))))\Rightarrow((r3_pre_poly X0 X1 X2)\Leftrightarrow(\forall X3.r1_xxreal_0 (k1_funct_1 \\ & X1 X3) (k1_funct_1 X2 X3)))) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ & (k15_pre_poly X0))))\Rightarrow(\forall X2.(m1_subset_1 X2 X1)\Rightarrow((v1_partfun1 \\ & X2 X0)\wedge((v4_valued_0 X2)\wedge(v2_pre_poly X2)))) \end{aligned} \quad (19)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.((v1_relat_1 X1)\wedge((v4_relat_1 X1 X0)\wedge \\ & (v1_funct_1 X1)\wedge((v1_partfun1 X1 X0)\wedge((v4_valued_0 X1)\wedge(v2_pre_poly \\ & X1))))\Rightarrow(r3_pre_poly X0 (k16_pre_poly X0) X1) \end{aligned}$$