t50_pre_poly (TMJsnuMT6SG9VYcMWYsuQmZvTn6povP4H8z)

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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 $k11\_pre\_poly : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3\_pre\_poly : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xcmplx\_0 : \iota \Rightarrow o$ be given. Let $k3\_binop\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_valued\_0 : \iota \Rightarrow o$ be given. Let $v3\_valued\_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge ((v4\_relat\_1\ X1\ X0) \wedge ((v1\_funct\_1\ X1) \wedge ((v1\_partfun1\ X1\ X0) \wedge ((v4\_valued\_0\ X1) \wedge (v2\_pre\_poly\ X1)))))) \Rightarrow (\forall X2.((v1\_relat\_1\ X2) \wedge ((v4\_relat\_1\ X2\ X0) \wedge ((v1\_funct\_1\ X2) \wedge ((v1\_partfun1\ X2\ X0) \wedge ((v4\_valued\_0\ X2) \wedge (v2\_pre\_poly\ X2)))))) \Rightarrow ((\forall X3.(X3 \in X0) \Rightarrow (r1\_xxreal\_0\ (k1\_funct\_1\ X1\ X3)\ (k1\_funct\_1\ X2\ X3))) \Rightarrow (r3\_pre\_poly\ X0\ X1\ X2))) \tag{1}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow (r1\_xxreal\_0\ X0\ (k2\_xcmplx\_0\ X0\ X1))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v1\_relat\_1\ X1) \wedge ((v4\_relat\_1\ X1\ X0) \wedge ((v1\_funct\_1\ X1) \wedge (v1\_partfun1\ X1\ X0)))) \wedge ((v1\_relat\_1\ X2) \wedge ((v4\_relat\_1\ X2\ X0) \wedge ((v1\_funct\_1\ X2) \wedge (v1\_partfun1\ X2\ X0))))) \Rightarrow ((r6\_pboole\ X0\ X1\ X2) \Leftrightarrow (X1 = X2)) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcmplx\_0\ X0) \wedge (v1\_xcmplx\_0\ X1)) \Rightarrow (k3\_binop\_2\ X0\ X1 = k2\_xcmplx\_0\ X0\ X1) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v4\_valued\_0\ X0)))\Rightarrow(v7\_ordinal1\ (k1\_funct\_1\ X0\ X1)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_valued\_0\ X0)))\Rightarrow(v1\_xcmplx\_0\ (k1\_funct\_1\ X0\ X1)) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ X0)\wedge((v1\_funct\_1\ X1)\wedge((v1\_partfun1\ X1\ X0)\wedge(v1\_valued\_0\ X1)))))\wedge((v1\_relat\_1\ X2)\wedge((v4\_relat\_1\ X2\ X0)\wedge((v1\_funct\_1\ X2)\wedge((v1\_partfun1\ X2\ X0)\wedge(v1\_valued\_0\ X2))))))\Rightarrow((v1\_relat\_1\ (k11\_pre\_poly\ X0\ X1\ X2))\wedge((v4\_relat\_1\ (k11\_pre\_poly\ X0\ X1\ X2)\ X0)\wedge((v1\_funct\_1\ (k11\_pre\_poly\ X0\ X1\ X2))\wedge(v1\_partfun1\ (k11\_pre\_poly\ X0\ X1\ X2)\ X0)))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ X0)\wedge((v1\_funct\_1\ X1)\wedge((v1\_partfun1\ X1\ X0)\wedge(v1\_valued\_0\ X1)))))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge((v4\_relat\_1\ X2\ X0)\wedge((v1\_funct\_1\ X2)\wedge((v1\_partfun1\ X2\ X0)\wedge(v1\_valued\_0\ X2)))))\Rightarrow(\forall X3.((v1\_relat\_1\ X3)\wedge((v4\_relat\_1\ X3\ X0)\wedge((v1\_funct\_1\ X3)\wedge(v1\_partfun1\ X3\ X0))))\Rightarrow((X3 = k11\_pre\_poly\ X0\ X1\ X2)\Leftrightarrow(\forall X4.k1\_funct\_1\ X3\ X4 = k3\_binop\_2\ (k1\_funct\_1\ X1\ X4)\ (k1\_funct\_1\ X2\ X4))))) \tag{8}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v4\_valued\_0\ X0))\Rightarrow((v1\_relat\_1\ X0)\wedge(v3\_valued\_0\ X0)) \tag{9}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v3\_valued\_0\ X0))\Rightarrow((v1\_relat\_1\ X0)\wedge(v1\_valued\_0\ X0)) \tag{10}$$

Theorem 1

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ X0)\wedge((v1\_funct\_1\ X1)\wedge((v1\_partfun1\ X1\ X0)\wedge((v4\_valued\_0\ X1)\wedge(v2\_pre\_poly\ X1))))))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge((v4\_relat\_1\ X2\ X0)\wedge((v1\_funct\_1\ X2)\wedge((v1\_partfun1\ X2\ X0)\wedge((v4\_valued\_0\ X2)\wedge(v2\_pre\_poly\ X2))))))\Rightarrow(\forall X3.((v1\_relat\_1\ X3)\wedge((v4\_relat\_1\ X3\ X0)\wedge((v1\_funct\_1\ X3)\wedge((v1\_partfun1\ X3\ X0)\wedge((v4\_valued\_0\ X3)\wedge(v2\_pre\_poly\ X3))))))\Rightarrow((r6\_pboole\ X0\ X1\ (k11\_pre\_poly\ X0\ X2\ X3))\Rightarrow(r3\_pre\_poly\ X0\ X2\ X1))))$$