t44_pboole (TMN5cFgTUC8HWZ4WaAqepCU4YteuBobdmxV)

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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 $r2\_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_pboole : \iota \Rightarrow \iota$ be given. Let $r6\_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_xboole\_0 : \iota$ be given. Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge ((v4\_relat\_1\ X1\ X0) \wedge ((v1\_funct\_1\ X1) \wedge (v1\_partfun1\ X1\ X0)))) \Rightarrow (r2\_pboole\ X0\ (k1\_pboole\ X0)\ X1) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v1\_relat\_1\ X1) \wedge ((v4\_relat\_1\ X1\ X0) \wedge ((v1\_funct\_1\ X1) \wedge (v1\_partfun1\ X1\ X0)))) \wedge ((v1\_relat\_1\ X2) \wedge ((v4\_relat\_1\ X2\ X0) \wedge ((v1\_funct\_1\ X2) \wedge (v1\_partfun1\ X2\ X0))))) \Rightarrow ((r6\_pboole\ X0\ X1\ X2) \Leftrightarrow (X1 = X2)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge ((v4\_relat\_1\ X1\ X0) \wedge ((v1\_funct\_1\ X1) \wedge (v1\_partfun1\ X1\ X0)))) \Rightarrow (\forall X2.((v1\_relat\_1\ X2) \wedge ((v4\_relat\_1\ X2\ X0) \wedge ((v1\_funct\_1\ X2) \wedge (v1\_partfun1\ X2\ X0)))) \Rightarrow (((r2\_pboole\ X0\ X1\ X2) \wedge (r2\_pboole\ X0\ X2\ X1)) \Rightarrow (X1 = X2))) \tag{3}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ (k1\_pboole\ X0)) \wedge ((v4\_relat\_1\ (k1\_pboole\ X0)\ X0) \wedge ((v1\_funct\_1\ (k1\_pboole\ X0)) \wedge (v1\_partfun1\ (k1\_pboole\ X0)\ X0))) \tag{4}$$

Assume the following.

$$\forall X0.k1\_pboole\ X0 = k7\_funcop\_1\ X0\ k1\_xboole\_0 \tag{5}$$

Theorem 1

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ X0)\wedge((v1\_funct\_1\ X1)\wedge(v1\_partfun1\ X1\ X0))))\Rightarrow((r2\_pboole\ X0\ X1\ (k1\_pboole\ X0))\Rightarrow(r6\_pboole\ X0\ X1\ (k1\_pboole\ X0)))$$