t18_autalg_1 (TMG-givouBBpuf3GLDLxkg5zoBYsDCEdPFbT)

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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 $r1\_pzfmisc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2\_relat\_1 : \iota \Rightarrow o$ be given. Let $k7\_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $k1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (X0 = k1\_xboole\_0) \tag{1}$$

Assume the following.

$$\forall X0.\neg v1\_xboole\_0\ (k1\_funct\_2\ X0\ X0) \tag{2}$$

Assume the following.

$$v1\_xboole\_0\ k1\_xboole\_0 \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(\neg v1\_xboole\_0\ X1) \Rightarrow (\neg v1\_xboole\_0\ (k1\_funct\_2\ X0\ X1)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v1\_relat\_1\ X1) \wedge ((v4\_relat\_1\ X1\ X0) \wedge ((v1\_funct\_1\ X1) \wedge (v1\_partfun1\ X1\ X0)))) \wedge ((v1\_relat\_1\ X2) \wedge ((v4\_relat\_1\ X2\ X0) \wedge ((v1\_funct\_1\ X2) \wedge (v1\_partfun1\ X2\ X0))))) \Rightarrow ((v1\_relat\_1\ (k7\_pboole\ X0\ X1\ X2)) \wedge ((v4\_relat\_1\ (k7\_pboole\ X0\ X1\ X2)\ X0) \wedge ((v1\_funct\_1\ (k7\_pboole\ X0\ X1\ X2)) \wedge (v1\_partfun1\ (k7\_pboole\ X0\ X1\ X2)\ X0)))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge ((v4\_relat\_1\ X1\ X0) \wedge ((v1\_funct\_1\ X1) \wedge (v1\_partfun1\ X1\ X0)))) \Rightarrow (\forall X2.((v1\_relat\_1\ X2) \wedge ((v4\_relat\_1\ X2\ X0) \wedge ((v1\_funct\_1\ X2) \wedge (v1\_partfun1\ X2\ X0)))) \Rightarrow ((r1\_pzfmisc1\ X0\ X1\ X2) \Leftrightarrow (\forall X3.((X3 \in X0) \wedge (k1\_funct\_1\ X2\ X3 = k1\_xboole\_0)) \Rightarrow (k1\_funct\_1\ X1\ X3 = k1\_xboole\_0)))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ X0)\wedge((v1\_funct\_1\ X1)\wedge(v1\_partfun1\ X1\ X0))))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge((v4\_relat\_1\ X2\ X0)\wedge((v1\_funct\_1\ X2)\wedge(v1\_partfun1\ X2\ X0))))\Rightarrow(\forall X3.((v1\_relat\_1\ X3)\wedge((v4\_relat\_1\ X3\ X0)\wedge((v1\_funct\_1\ X3)\wedge(v1\_partfun1\ X3\ X0))))\Rightarrow((X3 = k7\_pboole\ X0\ X1\ X2)\Leftrightarrow(\forall X4.(X4 \in X0)\Rightarrow(k1\_funct\_1\ X3\ X4 = k1\_funct\_2\ (k1\_funct\_1\ X1\ X4)\ (k1\_funct\_1\ X2\ X4))))))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ X0)\wedge((v1\_funct\_1\ X1)\wedge(v1\_partfun1\ X1\ X0))))\Rightarrow((v2\_relat\_1\ X1)\Leftrightarrow(\forall X2.\ \neg(X2 \in X0)\wedge(v1\_xboole\_0\ (k1\_funct\_1\ X1\ X2)))) \tag{8}$$

Theorem 1

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ X0)\wedge((v1\_funct\_1\ X1)\wedge(v1\_partfun1\ X1\ X0))))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge((v4\_relat\_1\ X2\ X0)\wedge((v1\_funct\_1\ X2)\wedge(v1\_partfun1\ X2\ X0))))\Rightarrow((r1\_pzfmisc1\ X0\ X1\ X2)\Rightarrow(v2\_relat\_1\ (k7\_pboole\ X0\ X1\ X2))))$$