t22_pzfmisc1 (TMJ32uRhB2XCBtmGmExvXcEmHHboYePXWcq)

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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 $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $r6\_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_pzfmisc1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_pboole : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge ((v4\_relat\_1\ X1\ X0) \wedge ((v1\_funct\_1\ X1) \wedge (v1\_partfun1\ X1\ X0)))) \Rightarrow (\forall X2.((v1\_relat\_1\ X2) \wedge ((v4\_relat\_1\ X2\ X0) \wedge ((v1\_funct\_1\ X2) \wedge (v1\_partfun1\ X2\ X0)))) \Rightarrow ((r6\_pboole\ X0\ (k3\_pboole\ X0\ X1\ X2)\ (k1\_pboole\ X0)) \Leftrightarrow (r6\_pboole\ X0\ (k4\_pboole\ X0\ X1\ X2)\ X1))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge ((v4\_relat\_1\ X1\ X0) \wedge ((v1\_funct\_1\ X1) \wedge (v1\_partfun1\ X1\ X0)))) \Rightarrow (\forall X2.((v1\_relat\_1\ X2) \wedge ((v4\_relat\_1\ X2\ X0) \wedge ((v1\_funct\_1\ X2) \wedge (v1\_partfun1\ X2\ X0)))) \Rightarrow (\neg(\neg v1\_xboole\_0\ X0) \wedge ((r6\_pboole\ X0\ (k3\_pboole\ X0\ (k1\_pzfmisc1\ X0\ X1)\ (k1\_pzfmisc1\ X0\ X2))\ (k1\_pboole\ X0)) \wedge (X1 = X2)))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge ((v4\_relat\_1\ X1\ X0) \wedge ((v1\_funct\_1\ X1) \wedge (v1\_partfun1\ X1\ X0)))) \Rightarrow ((v1\_relat\_1\ (k1\_pzfmisc1\ X0\ X1)) \wedge ((v4\_relat\_1\ (k1\_pzfmisc1\ X0\ X1)\ X0) \wedge ((v1\_funct\_1\ (k1\_pzfmisc1\ X0\ X1)) \wedge (v1\_partfun1\ (k1\_pzfmisc1\ X0\ X1)\ X0)))) \tag{3}$$

Theorem 1

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge ((v4\_relat\_1\ X1\ X0) \wedge ((v1\_funct\_1\ X1) \wedge (v1\_partfun1\ X1\ X0)))) \Rightarrow (\forall X2.((v1\_relat\_1\ X2) \wedge ((v4\_relat\_1\ X2\ X0) \wedge ((v1\_funct\_1\ X2) \wedge (v1\_partfun1\ X2\ X0)))) \Rightarrow (\neg(\neg v1\_xboole\_0\ X0) \wedge ((r6\_pboole\ X0\ (k4\_pboole\ X0\ (k1\_pzfmisc1\ X0\ X1)\ (k1\_pzfmisc1\ X0\ X2))\ (k1\_pzfmisc1\ X0\ X1)) \wedge (X1 = X2))))$$