t74_group_5 (TMccjpA9JYYBELiv621FnByi2a2oAH4rCEJ)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v15\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v2\_group\_1 : \iota \Rightarrow o$ be given. Let $v3\_group\_1 : \iota \Rightarrow o$ be given. Let $l3\_algstr\_0 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $r1\_struct\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9\_group\_5 : \iota \Rightarrow \iota$ be given. Let $k2\_group\_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_group\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_group\_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_group\_5 : \iota \Rightarrow \iota$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $m1\_group\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_group\_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_group\_1\ X0) \wedge ((v3\_group\_1\ X0) \wedge (l3\_algstr\_0\ X0)))) \Rightarrow (r1\_group\_2\ X0\ (k9\_group\_5\ X0)\ (k5\_group\_4\ X0\ (k6\_group\_5\ X0))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v2\_struct\_0\ X1) \wedge ((v2\_group\_1\ X1) \wedge ((v3\_group\_1\ X1) \wedge (l3\_algstr\_0\ X1)))) \Rightarrow ((X0 \in k6\_group\_5\ X1) \Leftrightarrow (\exists X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X1)) \wedge (\exists X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X1)) \wedge (X0 = k2\_group\_5\ X1\ X2\ X3)))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X2))) \Rightarrow (m1\_subset\_1\ X0\ X2) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_group\_1\ X0) \wedge ((v3\_group\_1\ X0) \wedge (l3\_algstr\_0\ X0)))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow ((X1 \in X2) \Rightarrow (r1\_struct\_0\ (k5\_group\_4\ X0\ X2)\ X1)))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge((v2\_group\_1\ X0)\wedge((v3\_group\_1\ X0)\wedge(l3\_algstr\_0\ X0))))\wedge(((v15\_algstr\_0\ X1)\wedge(m1\_group\_2\ X1\ X0))\wedge((v15\_algstr\_0\ X2)\wedge(m1\_group\_2\ X2\ X0))))\Rightarrow((r1\_group\_2\ X0\ X1\ X2)\Leftrightarrow(X1 = X2)) \tag{5}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_group\_1\ X0)\wedge((v3\_group\_1\ X0)\wedge(l3\_algstr\_0\ X0))))\Rightarrow((v15\_algstr\_0\ (k9\_group\_5\ X0))\wedge((v1\_group\_3\ (k9\_group\_5\ X0)\ X0)\wedge(m1\_group\_2\ (k9\_group\_5\ X0)\ X0))) \tag{6}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_group\_1\ X0)\wedge((v3\_group\_1\ X0)\wedge(l3\_algstr\_0\ X0))))\Rightarrow(m1\_subset\_1\ (k6\_group\_5\ X0)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v2\_group\_1\ X0)\wedge((v3\_group\_1\ X0)\wedge(l3\_algstr\_0\ X0))))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow((v15\_algstr\_0\ (k5\_group\_4\ X0\ X1))\wedge(m1\_group\_2\ (k5\_group\_4\ X0\ X1)\ X0)) \tag{8}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v15\_algstr\_0\ X0)\wedge((v2\_group\_1\ X0)\wedge((v3\_group\_1\ X0)\wedge(l3\_algstr\_0\ X0)))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(r1\_struct\_0\ (k9\_group\_5\ X0)\ (k2\_group\_5\ X0\ X1\ X2))))$$