t5_hahnban (TMQufuHo6CRJdurFXygn2Djbv1yCZPS7for)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v13\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v2\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v3\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v4\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v5\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v6\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v7\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v8\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $l1\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $m1\_rlsub\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_rlsub\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k4\_rlsub\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_struct\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_algstr\_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v2\_rlvect\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge ((v5\_rlvect\_1\ X0) \wedge ((v6\_rlvect\_1\ X0) \wedge ((v7\_rlvect\_1\ X0) \wedge ((v8\_rlvect\_1\ X0) \wedge (l1\_rlvect\_1\ X0))))))))) \Rightarrow (\forall X1.(m1\_rlsub\_1\ X1\ X0) \Rightarrow (\forall X2.(m1\_rlsub\_1\ X2\ X0) \Rightarrow ((r1\_rlsub\_2\ X0\ X1\ X2) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0)) \Rightarrow ((k4\_rlsub\_2\ X0\ X3\ X1\ X2 = k1\_domain\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ X4\ X5) \Rightarrow ((r1\_struct\_0\ X1\ X4) \wedge (r1\_struct\_0\ X2\ X5)))))))))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v2\_rlvect\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge ((v5\_rlvect\_1\ X0) \wedge ((v6\_rlvect\_1\ X0) \wedge ((v7\_rlvect\_1\ X0) \wedge ((v8\_rlvect\_1\ X0) \wedge (l1\_rlvect\_1\ X0))))))))) \Rightarrow (\forall X1.(m1\_rlsub\_1\ X1\ X0) \Rightarrow (\forall X2.(m1\_rlsub\_1\ X2\ X0) \Rightarrow ((r1\_rlsub\_2\ X0\ X1\ X2) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0)) \Rightarrow ((k4\_rlsub\_2\ X0\ X3\ X1\ X2 = k1\_domain\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ X4\ X5) \Rightarrow (X3 = k3\_rlvect\_1\ X0\ X4\ X5)))))))) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge(l1\_rlvect\_1\ X0))))))))))\Rightarrow(\forall X1.(m1\_rlsub\_1\ X1\ X0)\Rightarrow(\forall X2.(m1\_rlsub\_1\ X2\ X0)\Rightarrow((r1\_rlsub\_2\ X0\ X1\ X2)\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\Rightarrow(\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0))\Rightarrow(((r1\_struct\_0\ X1\ X4)\wedge((r1\_struct\_0\ X2\ X5)\wedge(X3 = k3\_rlvect\_1\ X0\ X4\ X5)))\Rightarrow(k4\_rlsub\_2\ X0\ X3\ X1\ X2 = k1\_domain\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ X4\ X5)))))))) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge(l1\_rlvect\_1\ X0))))))))))\Rightarrow(\forall X1.(m1\_rlsub\_1\ X1\ X0)\Rightarrow(\forall X2.(m1\_rlsub\_1\ X2\ X0)\Rightarrow((r1\_rlsub\_2\ X0\ X1\ X2)\Rightarrow(r1\_rlsub\_2\ X0\ X2\ X1)))) \tag{4}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0)\Rightarrow((l2\_struct\_0\ X0)\wedge(l1\_algstr\_0\ X0)) \tag{5}$$

Assume the following.

$$\forall X0.(l1\_rlvect\_1\ X0)\Rightarrow(l2\_algstr\_0\ X0) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v2\_rlvect\_1\ X0)\wedge(l1\_algstr\_0\ X0))\wedge((m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))))\Rightarrow(k3\_rlvect\_1\ X0\ X1\ X2 = k3\_rlvect\_1\ X0\ X2\ X1) \tag{7}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge(l1\_rlvect\_1\ X0))))))))))\Rightarrow(\forall X1.(m1\_rlsub\_1\ X1\ X0)\Rightarrow(\forall X2.(m1\_rlsub\_1\ X2\ X0)\Rightarrow((r1\_rlsub\_2\ X0\ X1\ X2)\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\Rightarrow(\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0))\Rightarrow((k4\_rlsub\_2\ X0\ X3\ X1\ X2 = k1\_domain\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ X4\ X5)\Rightarrow(k4\_rlsub\_2\ X0\ X3\ X2\ X1 = k1\_domain\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ X5\ X4)))))))$$