

# t77\_rlaffin1 (TMacqPfeKERRVKeKy- HYJ1zbWJJKCrSJK2hL)

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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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_rlaffin1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_rlaffin1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_rlvect\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_rlaffin1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m2\_rlvect\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $m1\_rlvect\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_rlvect\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_rlaffin1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \neg(X0 \in X1) \wedge (v1\_xboole\_0 X1) \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_rlvect\_1 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow ((r1\_tarski \\ & X1 X2) \Rightarrow (r1\_tarski (k4\_rlaffin1 X0 X1) (k4\_rlaffin1 X0 X2)))))) \end{aligned} \tag{2}$$

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.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\ & X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\ & ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge (l1\_rlvect\_1 \\ & X0)))))))))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0))) \Rightarrow (((v1\_rlaffin1 X1 X0) \wedge (r1\_tarski X2 X1)) \Rightarrow (v1\_rlaffin1 \\ & X2 X0)))))) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 (k1\_zfmisc\_1 X1))\Leftrightarrow(r1\_tarski X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 X1)\Rightarrow((v1\_xboole\_0 X1)\vee (X0 \in X1)) \quad (6)$$

Assume the following.

$$\begin{aligned} &\forall X0.(((\neg v2\_struct\_0 X0)\wedge((v13\_algstr\_0 X0)\wedge((v2\_rlvect\_1 X0)\wedge((v3\_rlvect\_1 X0)\wedge((v4\_rlvect\_1 X0)\wedge((v5\_rlvect\_1 X0)\wedge \\ &((v6\_rlvect\_1 X0)\wedge((v7\_rlvect\_1 X0)\wedge((v8\_rlvect\_1 X0)\wedge(l1\_rlvect\_1 X0))))))))))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\Rightarrow(\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\Rightarrow(\forall X3.(m2\_rlvect\_2 X3 X0 X1)\Rightarrow((r1\_tarski X1 X2)\Rightarrow(m2\_rlvect\_2 X3 X0 X2)))))) \quad (7) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge(l2\_algstr\_0 X0))\wedge((m1\_rlvect\_2 X1 X0)\wedge(m1\_rlvect\_2 X2 X0)))\Rightarrow((r1\_rlvect\_2 X0 X1 X2)\Leftrightarrow(X1 = X2)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0 X0)\wedge(l2\_algstr\_0 X0))\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))))\Rightarrow(\forall X2.(m2\_rlvect\_2 X2 X0 X1)\Rightarrow(m1\_rlvect\_2 X2 X0)) \quad (9)$$

Assume the following.

$$\forall X0.(l1\_rlvect\_1 X0)\Rightarrow(l2\_algstr\_0 X0) \quad (10)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge((v13\_algstr\_0 X0)\wedge((v2\_rlvect\_1 X0)\wedge((v3\_rlvect\_1 X0)\wedge((v4\_rlvect\_1 X0)\wedge \\ &((v5\_rlvect\_1 X0)\wedge((v6\_rlvect\_1 X0)\wedge((v7\_rlvect\_1 X0)\wedge((v8\_rlvect\_1 X0)\wedge(l1\_rlvect\_1 X0))))))))))\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))))\Rightarrow(m2\_rlvect\_2 (k5\_rlaffin1 X0 X1 X2) X0 X1) \quad (11) \end{aligned}$$

Assume the following.

$$\begin{aligned} &\forall X0.(((\neg v2\_struct\_0 X0)\wedge((v13\_algstr\_0 X0)\wedge((v2\_rlvect\_1 X0)\wedge((v3\_rlvect\_1 X0)\wedge((v4\_rlvect\_1 X0)\wedge((v5\_rlvect\_1 X0)\wedge \\ &((v6\_rlvect\_1 X0)\wedge((v7\_rlvect\_1 X0)\wedge((v8\_rlvect\_1 X0)\wedge(l1\_rlvect\_1 X0))))))))))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\Rightarrow((v1\_rlaffin1 X1 X0)\Rightarrow(\forall X2.(X2 \in k4\_rlaffin1 X0 X1)\Rightarrow(\forall X3.(m2\_rlvect\_2 X3 X0 X1)\Rightarrow((X3 = k5\_rlaffin1 X0 X1 X2)\Leftrightarrow((k6\_rlvect\_2 X0 X3 = X2)\wedge(k3\_rlaffin1 X0 X3 = np\_1)))))) \quad (12) \end{aligned}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (v1\_xboole\_0 X1)) \quad (13)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge \\ & ((v2\_rlvect\_1 X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 X1) \wedge ((v5\_rlvect\_1 \\ & X1) \wedge ((v6\_rlvect\_1 X1) \wedge ((v7\_rlvect\_1 X1) \wedge ((v8\_rlvect\_1 X1) \wedge \\ & (l1\_rlvect\_1 X1)))))))))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (u1\_struct\_0 X1))) \Rightarrow (\forall X3.((v1\_rlaffin1 X3 X1) \wedge (m1\_subset\_1 \\ & X3 (k1\_zfmisc\_1 (u1\_struct\_0 X1)))) \Rightarrow (((r1\_tarski X2 X3) \wedge (X0 \in \\ & k4\_rlaffin1 X1 X2)) \Rightarrow (r1\_rlvect\_2 X1 (k5\_rlaffin1 X1 X2 X0) (k5\_rlaffin1 \\ & X1 X3 X0)))))) \end{aligned}$$