

## t12\_rlvect\_4

(TMJb2kjcibiPPo82PbsazynE7AKxxX17JN8g)

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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  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_struct\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_rlvect\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_analmetr : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k3\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
 & X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
 & ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge (l1\_rlvect\_1 \\
 & X0)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\
 & (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (r2\_analmetr X0 \\
 & X1 X2 X1 X2))) \tag{1}
 \end{aligned}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge \\
 & ((v2\_rlvect\_1 X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 X1) \wedge ((v5\_rlvect\_1 \\
 & X1) \wedge ((v6\_rlvect\_1 X1) \wedge ((v7\_rlvect\_1 X1) \wedge ((v8\_rlvect\_1 X1) \wedge \\
 & (l1\_rlvect\_1 X1)))))))))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 \\
 & X1)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X1)) \Rightarrow ((r1\_struct\_0 \\
 & (k1\_rlvect\_3 X1 (k7\_domain\_1 (u1\_struct\_0 X1) X2 X3)) X0) \Leftrightarrow (\exists X4. \\
 & (m1\_subset\_1 X4 k1\_numbers) \wedge (\exists X5.(m1\_subset\_1 X5 k1\_numbers) \wedge \\
 & (X0 = k3\_rlvect\_1 X1 (k1\_rlvect\_1 X1 X2 X4) (k1\_rlvect\_1 X1 X3 X5)))))) \tag{2}
 \end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge (l1\_rlvect\_1 \\
& X0)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\
& (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 \\
& X3 (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 \\
& X0)) \Rightarrow ((r2\_analmetr X0 X1 X2 X3 X4) \Leftrightarrow (\exists X5.(m1\_subset\_1 X5 \\
& k1\_numbers) \wedge (\exists X6.(m1\_subset\_1 X6 k1\_numbers) \wedge (\exists X7. \\
& (m1\_subset\_1 X7 k1\_numbers) \wedge (\exists X8.(m1\_subset\_1 X8 k1\_numbers) \wedge \\
& ((X1 = k3\_rlvect\_1 X0 (k1\_rlvect\_1 X0 X3 X5) (k1\_rlvect\_1 X0 X4 X6)) \wedge \\
& ((X2 = k3\_rlvect\_1 X0 (k1\_rlvect\_1 X0 X3 X7) (k1\_rlvect\_1 X0 X4 X8)) \wedge \\
& (k7\_real\_1 (k8\_real\_1 X5 X7) (k8\_real\_1 X6 X8) = k6\_numbers))))))))))))) \\
& \tag{3}
\end{aligned}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge (l1\_rlvect\_1 \\
& X0)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\
& (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((r1\_struct\_0 \\
& (k1\_rlvect\_3 X0 (k7\_domain\_1 (u1\_struct\_0 X0) X1 X2)) X1) \wedge (r1\_struct\_0 \\
& (k1\_rlvect\_3 X0 (k7\_domain\_1 (u1\_struct\_0 X0) X1 X2)) X2))))))
\end{aligned}$$