

## t50\_rusub\_2

(TMMWprslUh3syncBKiAjwuTpBmyszF6ux6bh)

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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  $v2\_bhsp\_1 : \iota \Rightarrow o$  be given. Let  $l1\_bhsp\_1 : \iota \Rightarrow o$  be given. Let  $m1\_rusub\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_rusub\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_rusub\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_rusub\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_struct\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
 & X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
 & ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v2\_bhsp\_1 \\
 & X0) \wedge (l1\_bhsp\_1 X0)))))))))) \Rightarrow (\forall X1. (m1\_rusub\_1 X1 X0) \Rightarrow \\
 & (\forall X2. (m1\_rusub\_2 X2 X0 X1) \Rightarrow ((r1\_rusub\_2 X0 X2 X1) \wedge (r1\_rusub\_2 \\
 & X0 X1 X2))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge \\
 & ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 \\
 & X0) \wedge ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge \\
 & ((v2\_bhsp\_1 X0) \wedge (l1\_bhsp\_1 X0)))))))))) \wedge (m1\_rusub\_1 X1 X0)) \Rightarrow \\
 & (\forall X2. (m1\_rusub\_2 X2 X0 X1) \Rightarrow (m1\_rusub\_1 X2 X0))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v2\_struct\_0 \\
& X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge \\
& ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 \\
& X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v2\_bhsp\_1 X0) \wedge (l1\_bhsp\_1 X0)))))))))) \wedge \\
& ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge ((m1\_rusub\_1 X2 X0) \wedge (m1\_rusub\_1 \\
& X3 X0))) \Rightarrow (m1\_subset\_1 (k4\_rusub\_2 X0 X1 X2 X3) (k2\_zfmisc\_1 (u1\_struct\_0 \\
& X0) (u1\_struct\_0 X0)))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v2\_bhsp\_1 \\
& X0) \wedge (l1\_bhsp\_1 X0)))))))))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 \\
& X0)) \Rightarrow (\forall X2. (m1\_rusub\_1 X2 X0) \Rightarrow (\forall X3. (m1\_rusub\_1 \\
& X3 X0) \Rightarrow ((r1\_rusub\_2 X0 X2 X3) \Rightarrow (\forall X4. (m1\_subset\_1 X4 (k2\_zfmisc\_1 \\
& (u1\_struct\_0 X0) (u1\_struct\_0 X0)) \Rightarrow ((X4 = k4\_rusub\_2 X0 X1 X2 X3) \Leftrightarrow \\
& ((X1 = k3\_rlvect\_1 X0 (k2\_domain\_1 (u1\_struct\_0 X0) (u1\_struct\_0 \\
& X0) X4) (k3\_domain\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0) X4)) \wedge (( \\
& r1\_struct\_0 X2 (k2\_domain\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0) \\
& X4)) \wedge (r1\_struct\_0 X3 (k3\_domain\_1 (u1\_struct\_0 X0) (u1\_struct\_0 \\
& X0) X4))))))))))
\end{aligned} \tag{4}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0. (((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v2\_bhsp\_1 \\
& X0) \wedge (l1\_bhsp\_1 X0)))))))))) \Rightarrow (\forall X1. (m1\_rusub\_1 X1 X0) \Rightarrow \\
& (\forall X2. (m1\_rusub\_2 X2 X0 X1) \Rightarrow (\forall X3. (m1\_subset\_1 X3 \\
& (u1\_struct\_0 X0)) \Rightarrow (k3\_rlvect\_1 X0 (k2\_domain\_1 (u1\_struct\_0 \\
& X0) (u1\_struct\_0 X0) (k4\_rusub\_2 X0 X3 X1 X2)) (k3\_domain\_1 (u1\_struct\_0 \\
& X0) (u1\_struct\_0 X0) (k4\_rusub\_2 X0 X3 X1 X2)) = X3))))
\end{aligned}$$