

## t8\_rusub\_3

(TMH3NXFtJVyU1vPZzCq1KYdavhr6BRTc9f1)

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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  $v1\_bhsp\_1 : \iota \Rightarrow o$  be given. Let  $v2\_bhsp\_1 : \iota \Rightarrow o$  be given. Let  $l1\_bhsp\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_rusub\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_rusub\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\ & X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\ & ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v2\_bhsp\_1 \\ & X0) \wedge (l1\_bhsp\_1 X0)))))))))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (u1\_struct\_0 X0))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (u1\_struct\_0 X0))) \Rightarrow ((r1\_tarski X1 X2) \Rightarrow (m1\_rusub\_1 (k1\_rusub\_3 \\ & X0 X1) (k1\_rusub\_3 X0 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\ & X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\ & ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v1\_bhsp\_1 \\ & X0) \wedge ((v2\_bhsp\_1 X0) \wedge (l1\_bhsp\_1 X0)))))))))) \Rightarrow (\forall X1. \\ & ((\neg v2\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge ((v2\_rlvect\_1 X1) \wedge (( \\ & v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 X1) \wedge ((v5\_rlvect\_1 X1) \wedge ((v6\_rlvect\_1 \\ & X1) \wedge ((v7\_rlvect\_1 X1) \wedge ((v8\_rlvect\_1 X1) \wedge ((v1\_bhsp\_1 X1) \wedge (( \\ & v2\_bhsp\_1 X1) \wedge (l1\_bhsp\_1 X1)))))))))) \Rightarrow (((m1\_rusub\_1 X0 X1) \wedge \\ & (m1\_rusub\_1 X1 X0)) \Rightarrow (X0 = X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v2\_bhspl\_1 \\
& X0) \wedge (l1\_bhspl\_1 X0)))))))))) \Rightarrow (\forall X1.(m1\_rusub\_1 X1 X0) \Rightarrow \\
& ((\neg v2\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge ((v2\_rlvect\_1 X1) \wedge (( \\
& v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 X1) \wedge ((v5\_rlvect\_1 X1) \wedge ((v6\_rlvect\_1 \\
& X1) \wedge ((v7\_rlvect\_1 X1) \wedge ((v8\_rlvect\_1 X1) \wedge ((v2\_bhspl\_1 X1) \wedge (l1\_bhspl\_1 \\
& X1)))))))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge \\
& ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 \\
& X0) \wedge ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge \\
& ((v2\_bhspl\_1 X0) \wedge (l1\_bhspl\_1 X0)))))))))) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& (u1\_struct\_0 X0))) \Rightarrow ((v1\_bhspl\_1 (k1\_rusub\_3 X0 X1)) \wedge (m1\_rusub\_1 \\
& (k1\_rusub\_3 X0 X1) X0))
\end{aligned} \tag{4}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v1\_bhspl\_1 \\
& X0) \wedge ((v2\_bhspl\_1 X0) \wedge (l1\_bhspl\_1 X0)))))))))) \Rightarrow (\forall X1. \\
& (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (\forall X2. \\
& (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (((k1\_rusub\_3 \\
& X0 X1 = X0) \wedge (r1\_tarski X1 X2)) \Rightarrow (k1\_rusub\_3 X0 X2 = X0)))
\end{aligned}$$