

t20\_rusub\_1 (TMFp-  
PCR6Q6hdVKqJJoZEWrn4nJGSNNRhhhP)

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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  $m1\_rusub\_1 : \iota \Rightarrow \iota \Rightarrow o$  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. Let  $l1\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $u2\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $u1\_algstr\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_realset1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_rlvect\_1 : \iota \Rightarrow \iota$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $u1\_bhsp\_1 : \iota \Rightarrow \iota$  be given. Let  $g1\_bhsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\ &X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\ &((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v1\_bhsp\_1 \\ &X0) \wedge (l1\_bhsp\_1 X0)))))))))) \Rightarrow (m1\_rusub\_1 X0 X0) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. (l2\_algstr\_0 X0) \Rightarrow ((l2\_struct\_0 X0) \wedge (l1\_algstr\_0 X0)) \quad (2)$$

Assume the following.

$$\forall X0. (l1\_rlvect\_1 X0) \Rightarrow (l2\_algstr\_0 X0) \quad (3)$$

Assume the following.

$$\forall X0. (l1\_bhsp\_1 X0) \Rightarrow (l1\_rlvect\_1 X0) \quad (4)$$

Assume the following.

$$\forall X0. (l2\_struct\_0 X0) \Rightarrow (k4\_struct\_0 X0 = u2\_struct\_0 X0) \quad (5)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v2\_bhspl1 \\
& X0) \wedge (l1\_bhspl1 X0)))))))))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge \\
& ((v13\_algstr\_0 X1) \wedge ((v2\_rlvect\_1 X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 \\
& X1) \wedge ((v5\_rlvect\_1 X1) \wedge ((v6\_rlvect\_1 X1) \wedge ((v7\_rlvect\_1 X1) \wedge \\
& ((v8\_rlvect\_1 X1) \wedge ((v2\_bhspl1 X1) \wedge (l1\_bhspl1 X1)))))))))) \Rightarrow \\
& ((m1\_rusub\_1 X1 X0) \Leftrightarrow ((r1\_tarski (u1\_struct\_0 X1) (u1\_struct\_0 \\
& X0)) \wedge ((k4\_struct\_0 X1 = k4\_struct\_0 X0) \wedge ((u1\_algstr\_0 X1 = k1\_realset1 \\
& (u1\_algstr\_0 X0) (u1\_struct\_0 X1)) \wedge ((u1\_rlvect\_1 X1 = k5\_relat\_1 \\
& (u1\_rlvect\_1 X0) (k2\_zfmisc\_1 k1\_numbers (u1\_struct\_0 X1))) \wedge \\
& (u1\_bhspl1 X1 = k1\_realset1 (u1\_bhspl1 X0) (u1\_struct\_0 X1)))))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\forall X0. \forall X1. (X0 = X1) \Leftrightarrow ((r1\_tarski X0 X1) \wedge (r1\_tarski X1 X0)) \tag{7}$$

Assume the following.

$$\forall X0. (l1\_bhspl1 X0) \Rightarrow ((v1\_bhspl1 X0) \Rightarrow (X0 = g1\_bhspl1 (u1\_struct\_0 \\
X0) (u2\_struct\_0 X0) (u1\_algstr\_0 X0) (u1\_rlvect\_1 X0) (u1\_bhspl1 \\
X0))) \tag{8}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v1\_bhspl1 \\
& X0) \wedge ((v2\_bhspl1 X0) \wedge (l1\_bhspl1 X0)))))))))) \Rightarrow (\forall X1. \\
& ((\neg v2\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge ((v2\_rlvect\_1 X1) \wedge (( \\
& v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 X1) \wedge ((v5\_rlvect\_1 X1) \wedge ((v6\_rlvect\_1 \\
& X1) \wedge ((v7\_rlvect\_1 X1) \wedge ((v8\_rlvect\_1 X1) \wedge ((v1\_bhspl1 X1) \wedge (( \\
& v2\_bhspl1 X1) \wedge (l1\_bhspl1 X1)))))))))) \Rightarrow (((m1\_rusub\_1 X0 X1) \wedge \\
& (m1\_rusub\_1 X1 X0)) \Rightarrow (X0 = X1)))
\end{aligned}$$