

# t14\_rsspace (TM- LUy6eUzaHYhDLz4M1F1odKmmKVPqrXff)

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Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k7\_rsspace : \iota$  be given. Let  $k1\_rsspace : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_rsspace : \iota \Rightarrow \iota$  be given. Let  $k3\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_series\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k26\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $g1\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_rsspace : \iota$  be given. Let  $k4\_rsspace : \iota$  be given. Let  $k5\_rsspace : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v2\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $l1\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $k1\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v13\_algstr\_0 : \iota \Rightarrow o$  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  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $k5\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_algstr\_0 : \iota \Rightarrow \iota$  be given. Let  $u2\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $u1\_rlvect\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 (u1\_struct\_0 (g1\_rlvect\_1 k1\_rsspace k6\_rsspace k4\_rsspace \\ & k5\_rsspace))) \Rightarrow (k1\_rlvect\_1 (g1\_rlvect\_1 k1\_rsspace k6\_rsspace \\ & k4\_rsspace k5\_rsspace) X1 X0 = k26\_valued\_1 k5\_numbers k1\_numbers \\ & (k2\_rsspace X1) X0)) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v2\_rlvect\_1 X0)\wedge(l1\_algstr\_0 X0))\wedge((m1\_subset\_1 X1 (u1\_struct\_0 X0))\wedge(m1\_subset\_1 X2 (u1\_struct\_0 X0))))\Rightarrow(k3\_rlvect\_1 X0 X1 X2 = k1\_algstr\_0 X0 X1 X2) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((m1\_subset\_1 X1 X0)\wedge(((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 (k2\_zfmisc\_1 X0 X0) X0)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0) X0))))\wedge((v1\_funct\_1 X3)\wedge((v1\_funct\_2 X3 (k2\_zfmisc\_1 k1\_numbers X0) X0)\wedge(m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers X0) X0))))))))\Rightarrow(\forall X4.\forall X5.\forall X6.\forall X7.(g1\_rlvect\_1 X0 X1 X2 X3 = g1\_rlvect\_1 X4 X5 X6 X7)\Rightarrow((X0 = X4)\wedge((X1 = X5)\wedge((X2 = X6)\wedge(X3 = X7))))) \quad (5)$$

Assume the following.

$$(v13\_algstr\_0 k7\_rsspace)\wedge((v2\_rlvect\_1 k7\_rsspace)\wedge((v3\_rlvect\_1 k7\_rsspace)\wedge((v4\_rlvect\_1 k7\_rsspace)\wedge((v5\_rlvect\_1 k7\_rsspace)\wedge((v6\_rlvect\_1 k7\_rsspace)\wedge((v7\_rlvect\_1 k7\_rsspace)\wedge(v8\_rlvect\_1 k7\_rsspace)))))))) \quad (6)$$

Assume the following.

$$(\neg v2\_struct\_0 k7\_rsspace)\wedge(v1\_rlvect\_1 k7\_rsspace) \quad (7)$$

Assume the following.

$$\forall X0.(l2\_algstr\_0 X0)\Rightarrow((l2\_struct\_0 X0)\wedge(l1\_algstr\_0 X0)) \quad (8)$$

Assume the following.

$$\forall X0.(l1\_rlvect\_1 X0)\Rightarrow(l2\_algstr\_0 X0) \quad (9)$$

Assume the following.

$$l1\_rlvect\_1 k7\_rsspace \quad (10)$$

Assume the following.

$$m1\_subset\_1 k6\_rsspace k1\_rsspace \quad (11)$$

Assume the following.

$$(v1\_funct\_1 k5\_rsspace)\wedge((v1\_funct\_2 k5\_rsspace (k2\_zfmisc\_1 k1\_numbers k1\_rsspace) k1\_rsspace)\wedge(m1\_subset\_1 k5\_rsspace (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_rsspace) k1\_rsspace)))) \quad (12)$$

Assume the following.

$$(v1\_funct\_1\ k4\_rsspace) \wedge ((v1\_funct\_2\ k4\_rsspace\ (k2\_zfmisc\_1\ k1\_rsspace\ k1\_rsspace)\ k1\_rsspace) \wedge (m1\_subset\_1\ k4\_rsspace\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_rsspace\ k1\_rsspace)\ k1\_rsspace)))) \quad (13)$$

Assume the following.

$$\forall X0.(v1\_funct\_1\ (k2\_rsspace\ X0)) \wedge ((v1\_funct\_2\ (k2\_rsspace\ X0)\ k5\_numbers\ k1\_numbers) \wedge (m1\_subset\_1\ (k2\_rsspace\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ k1\_numbers)))) \quad (14)$$

Assume the following.

$$\neg v1\_xboole\_0\ k1\_rsspace \quad (15)$$

Assume the following.

$$k7\_rsspace = g1\_rlvect\_1\ k1\_rsspace\ k6\_rsspace\ k4\_rsspace\ k5\_rsspace \quad (16)$$

Assume the following.

$$\forall X0.((v1\_funct\_1\ X0) \wedge ((v1\_funct\_2\ X0\ (k2\_zfmisc\_1\ k1\_rsspace\ k1\_rsspace)\ k1\_rsspace) \wedge (m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_rsspace\ k1\_rsspace)\ k1\_rsspace)))))) \Rightarrow ((X0 = k4\_rsspace) \Leftrightarrow (\forall X1.(m1\_subset\_1\ X1\ k1\_rsspace) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ k1\_rsspace) \Rightarrow (k5\_binop\_1\ k1\_rsspace\ X0\ X1\ X2 = k1\_series\_1\ k1\_numbers\ (k2\_rsspace\ X1)\ (k2\_rsspace\ X2)))))) \quad (17)$$

Assume the following.

$$\forall X0.(X0 \in k1\_rsspace) \Rightarrow (k2\_rsspace\ X0 = X0) \quad (18)$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow ((X0 = k1\_rsspace) \Leftrightarrow (\forall X1.(X1 \in X0) \Leftrightarrow ((v1\_funct\_1\ X1) \wedge ((v1\_funct\_2\ X1\ k5\_numbers\ k1\_numbers) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ k1\_numbers))))))) \quad (19)$$

Assume the following.

$$\forall X0.(l1\_algstr\_0\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (k1\_algstr\_0\ X0\ X1\ X2 = k5\_binop\_1\ (u1\_struct\_0\ X0)\ (u1\_algstr\_0\ X0)\ X1\ X2))) \quad (20)$$

Assume the following.

$$\forall X0.(l1\_rlvect\_1\ X0) \Rightarrow ((v1\_rlvect\_1\ X0) \Rightarrow (X0 = g1\_rlvect\_1\ (u1\_struct\_0\ X0)\ (u2\_struct\_0\ X0)\ (u1\_algstr\_0\ X0)\ (u1\_rlvect\_1\ X0))) \quad (21)$$

**Theorem 1**

$$\begin{aligned} & (u1\_struct\_0 \ k7\_rsspace = k1\_rsspace) \wedge ((\forall X0.(m1\_subset\_1 \\ & X0 \ (u1\_struct\_0 \ k7\_rsspace)) \Leftrightarrow ((v1\_funct\_1 \ X0) \wedge ((v1\_funct\_2 \\ & X0 \ k5\_numbers \ k1\_numbers) \wedge (m1\_subset\_1 \ X0 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \\ & k5\_numbers \ k1\_numbers)))))) \wedge ((\forall X0.(m1\_subset\_1 \ X0 \ (u1\_struct\_0 \\ & k7\_rsspace)) \Rightarrow (X0 = k2\_rsspace \ X0)) \wedge ((\forall X0.(m1\_subset\_1 \\ & X0 \ (u1\_struct\_0 \ k7\_rsspace)) \Rightarrow (\forall X1.(m1\_subset\_1 \ X1 \ (u1\_struct\_0 \\ & k7\_rsspace)) \Rightarrow (k3\_rlvect\_1 \ k7\_rsspace \ X0 \ X1 = k1\_series\_1 \ k1\_numbers \\ & (k2\_rsspace \ X0) \ (k2\_rsspace \ X1)))))) \wedge ((\forall X0.(m1\_subset\_1 \\ & X0 \ k1\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \ X1 \ (u1\_struct\_0 \ k7\_rsspace)) \Rightarrow \\ & (k1\_rlvect\_1 \ k7\_rsspace \ X1 \ X0 = k26\_valued\_1 \ k5\_numbers \ k1\_numbers \\ & (k2\_rsspace \ X1) \ X0)))))) \end{aligned}$$