

t30\_rusub\_5 (TM-  
SZV6G64D5MUxe5CdsqybAXxmskcjxGZwY)

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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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_bhsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_square\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_bhsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k2\_bhsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $np\_0 : \iota$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\ & X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\ & ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v2\_bhsp\_1 \\ & X0) \wedge (l1\_bhsp\_1 X0)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((k5\_square\_1 \\ & (k3\_bhsp\_1 X0 (k3\_rlvect\_1 X0 X1 X2)) = k7\_real\_1 (k7\_real\_1 (k5\_square\_1 \\ & (k3\_bhsp\_1 X0 X1)) (k8\_real\_1 np\_2 (k2\_bhsp\_1 X0 X1 X2))) (k5\_square\_1 \\ & (k3\_bhsp\_1 X0 X2))) \wedge (k5\_square\_1 (k3\_bhsp\_1 X0 (k5\_algstr\_0 X0 \\ & X1 X2)) = k7\_real\_1 (k9\_real\_1 (k5\_square\_1 (k3\_bhsp\_1 X0 X1)) ( \\ & k8\_real\_1 np\_2 (k2\_bhsp\_1 X0 X1 X2))) (k5\_square\_1 (k3\_bhsp\_1 \\ & X0 X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k2\_xcmplx\_0 X0 \ k6\_numbers = X0) \quad (3)$$

Assume the following.

$$\begin{aligned} & ((v2\_xreal\_0 \ np\_2) \wedge (m2\_subset\_1 \ np\_2 \ k1\_numbers \ k5\_numbers)) \wedge \\ & ((m1\_subset\_1 \ np\_2 \ k5\_numbers) \wedge (m1\_subset\_1 \ np\_2 \ k1\_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$(m2\_subset\_1 \ np\_0 \ k1\_numbers \ k5\_numbers) \wedge ((m1\_subset\_1 \ np\_0 \ k5\_numbers) \wedge (m1\_subset\_1 \ np\_0 \ k1\_numbers)) \quad (5)$$

Assume the following.

$$v1\_xboole\_0 \ np\_0 \quad (6)$$

Assume the following.

$$k3\_xcmplx\_0 \ np\_0 \ np\_2 = np\_0 \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. ((m1\_subset\_1 \ X0 \ k1\_numbers) \wedge (v1\_xreal\_0 \ X1)) \Rightarrow (k8\_real\_1 \ X0 \ X1 = k3\_xcmplx\_0 \ X0 \ X1) \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. ((m1\_subset\_1 \ X0 \ k1\_numbers) \wedge (v1\_xreal\_0 \ X1)) \Rightarrow (k7\_real\_1 \ X0 \ X1 = k2\_xcmplx\_0 \ X0 \ X1) \quad (9)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (10)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 \ X0 \ k1\_numbers) \Rightarrow (m1\_subset\_1 \ (k5\_square\_1 \ X0) \ k1\_numbers) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2\_struct\_0 \ X0) \wedge ((v13\_algstr\_0 \ X0) \wedge \\ & ((v2\_rlvect\_1 \ X0) \wedge (v3\_rlvect\_1 \ X0) \wedge (v4\_rlvect\_1 \ X0) \wedge (v5\_rlvect\_1 \\ & \ X0) \wedge (v6\_rlvect\_1 \ X0) \wedge (v7\_rlvect\_1 \ X0) \wedge (v8\_rlvect\_1 \ X0) \wedge \\ & ((v2\_bhsp\_1 \ X0) \wedge (l1\_bhsp\_1 \ X0)))))) \wedge (m1\_subset\_1 \ X1 \ (u1\_struct\_0 \\ & \ X0))) \Rightarrow (m1\_subset\_1 \ (k3\_bhsp\_1 \ X0 \ X1) \ k1\_numbers) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 \ X0) \wedge ((v13\_algstr\_0 \ X0) \wedge ((v2\_rlvect\_1 \\ & \ X0) \wedge (v3\_rlvect\_1 \ X0) \wedge (v4\_rlvect\_1 \ X0) \wedge (v5\_rlvect\_1 \ X0) \wedge \\ & ((v6\_rlvect\_1 \ X0) \wedge (v7\_rlvect\_1 \ X0) \wedge (v8\_rlvect\_1 \ X0) \wedge ((v2\_bhsp\_1 \\ & \ X0) \wedge (l1\_bhsp\_1 \ X0)))))) \Rightarrow (\forall X1. (m1\_subset\_1 \ X1 \ (u1\_struct\_0 \\ & \ X0)) \Rightarrow (\forall X2. (m1\_subset\_1 \ X2 \ (u1\_struct\_0 \ X0)) \Rightarrow ((r1\_bhsp\_1 \\ & \ X0 \ X1 \ X2) \Leftrightarrow (k2\_bhsp\_1 \ X0 \ X1 \ X2 = k6\_numbers)))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k1\_numbers)\wedge(v1\_xreal\_0 X1))\Rightarrow(k8\_real\_1 X0 X1 = k8\_real\_1 X1 X0) \quad (14)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xcmplx\_0 X0) \quad (15)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers)\Rightarrow(v1\_xreal\_0 X0) \quad (16)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0)\wedge((v13\_algstr\_0 X0)\wedge((v2\_rlvect\_1 \\ & X0)\wedge((v3\_rlvect\_1 X0)\wedge((v4\_rlvect\_1 X0)\wedge((v5\_rlvect\_1 X0)\wedge \\ & ((v6\_rlvect\_1 X0)\wedge((v7\_rlvect\_1 X0)\wedge((v8\_rlvect\_1 X0)\wedge((v2\_bhsp\_1 \\ & X0)\wedge(l1\_bhsp\_1 X0))))))))))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ & X0))\Rightarrow(\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0))\Rightarrow((r1\_bhsp\_1 \\ & X0 X1 X2)\Rightarrow(k5\_square\_1 (k3\_bhsp\_1 X0 (k3\_rlvect\_1 X0 X1 X2)) = k7\_real\_1 \\ & (k5\_square\_1 (k3\_bhsp\_1 X0 X1)) (k5\_square\_1 (k3\_bhsp\_1 X0 X2)))))) \end{aligned}$$