

t63\_xreal\_1 (TMLR-  
mDZMRr3iLmm6H4uGS7vbpptN97ZFqJ6)

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Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k4\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Let  $np\_0 : \iota$  be given. Let  $v3\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $c7\_xreal\_0 : \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$k2\_xcmplx\_0 \ np\_1 \ (k4\_xcmplx\_0 \ np\_1) = np\_0 \quad (1)$$

Assume the following.

$$k2\_xcmplx\_0 \ np\_1 \ (k4\_xcmplx\_0 \ np\_1) = k6\_numbers \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_xreal\_0 \ X0) \wedge (v1\_xreal\_0 \ X1)) \Rightarrow (v1\_xreal\_0 \ (k3\_xcmplx\_0 \ X0 \ X1)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (((\neg v3\_xxreal\_0 \ X0) \wedge (v1\_xreal\_0 \ X0)) \wedge ((\neg v3\_xxreal\_0 \ X1) \wedge (v1\_xreal\_0 \ X1))) \Rightarrow (\neg v3\_xxreal\_0 \ (k3\_xcmplx\_0 \ X0 \ X1)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (((\neg v2\_xxreal\_0 \ X0) \wedge (v1\_xreal\_0 \ X0)) \wedge ((\neg v2\_xxreal\_0 \ X1) \wedge (v1\_xreal\_0 \ X1))) \Rightarrow (\neg v3\_xxreal\_0 \ (k3\_xcmplx\_0 \ X0 \ X1)) \quad (5)$$

Assume the following.

$$c7\_xreal\_0 = k6\_numbers \quad (6)$$

Assume the following.

$$\forall X0. (v1\_xxreal\_0 \ X0) \Rightarrow ((v3\_xxreal\_0 \ X0) \Leftrightarrow (\neg r1\_xxreal\_0 \ k6\_numbers \ X0)) \quad (7)$$

Assume the following.

$$\forall X0.((v1\_xxreal\_0 X0) \wedge (v3\_xxreal\_0 X0)) \Rightarrow ((\neg v1\_xboole\_0 X0) \wedge ((v1\_xxreal\_0 X0) \wedge (\neg v2\_xxreal\_0 X0))) \quad (8)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xxreal\_0 X0) \quad (9)$$

**Theorem 1**

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (r1\_xxreal\_0 k6\_numbers (k3\_xcmplx\_0 X0 X0))$$