

# l53\_xxreal\_3 (TManYuHbFtrvw- PYhc3H4CNfTN91P5ECwFRv)

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Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_xxreal\_3 : \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k4\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k2\_xxreal\_0 : \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xxreal\_0 : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow ((r1\_xxreal\_0 X0 X1) \Leftrightarrow (r1\_xxreal\_0 (k4\_xcmplx\_0 X1) (k4\_xcmplx\_0 X0)))) \quad (1)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow ((k2\_xxreal\_3 X0 \in k1\_numbers) \Leftrightarrow (X0 \in k1\_numbers)) \quad (2)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (k2\_xxreal\_3 (k2\_xxreal\_3 X0) = X0) \quad (3)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow ((v1\_xxreal\_0 (k2\_xxreal\_3 X0)) \wedge (v1\_xreal\_0 (k2\_xxreal\_3 X0))) \quad (4)$$

Assume the following.

$$\neg v1\_xreal\_0 k2\_xxreal\_0 \quad (5)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (v1\_xreal\_0 (k2\_xxreal\_3 X0)) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (( \\ & (v1\_xreal\_0 X0) \Rightarrow ((X1 = k2\_xxreal\_3 X0) \Leftrightarrow (\exists X2.(v1\_xcmplx\_0 \\ & X2) \wedge ((X0 = X2) \wedge (X1 = k4\_xcmplx\_0 X2)))))) \wedge (((X0 = k1\_xxreal\_0) \Rightarrow \\ & ((X1 = k2\_xxreal\_3 X0) \Leftrightarrow (X1 = k2\_xxreal\_0))) \wedge (\neg(\neg v1\_xreal\_0 X0) \wedge \\ & ((X0 \neq k1\_xxreal\_0) \wedge (\neg(X1 = k2\_xxreal\_3 X0) \Leftrightarrow (X1 = k1\_xxreal\_0)))))) \end{aligned} \quad (7)$$

Assume the following.

$$k1\_xxreal\_0 = k1\_numbers \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (( \\ ((X0 \in k1\_numbers) \wedge (X1 \in k1\_numbers)) \Rightarrow ((r1\_xxreal\_0 X0 X1) \Leftrightarrow (\exists X2. \\ (m1\_subset\_1 X2 k1\_numbers) \wedge (\exists X3.(m1\_subset\_1 X3 k1\_numbers) \wedge \\ ((X2 = X0) \wedge (X3 = X1) \wedge (r1\_xxreal\_0 X2 X3)))))) \wedge ((\neg(X0 \in k1\_numbers) \wedge \\ (X1 \in k1\_numbers)) \Rightarrow ((r1\_xxreal\_0 X0 X1) \Leftrightarrow ((X0 = k2\_xxreal\_0) \vee ( \\ X1 = k1\_xxreal\_0)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Leftrightarrow (X0 \in k1\_numbers) \quad (10)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (v1\_xxreal\_0 X0) \quad (11)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (( \\ r1\_xxreal\_0 X0 X1) \Rightarrow (r1\_xxreal\_0 (k2\_xxreal\_3 X1) (k2\_xxreal\_3 \\ X0)))) \end{aligned}$$