

# l11\_seq\_4

(TMN6MTaUQ4tcvvjomAJVvmHkpChR2iFRFJX)

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Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_seq\_4 : \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_binop\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v2\_membered : \iota \Rightarrow o$  be given. Let  $v3\_xxreal\_2 : \iota \Rightarrow o$  be given. Let  $m2\_xxreal\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\neg(\neg r1\_xxreal\_0 X0 k6\_numbers) \wedge (r1\_xxreal\_0 (k2\_xcmplx\_0 X1 X0) X1))) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0) \wedge (v1\_xreal\_0 X1)) \Rightarrow (k9\_binop\_2 X0 X1 = k2\_xcmplx\_0 X0 X1) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0) \wedge (v1\_xreal\_0 X1)) \Rightarrow (m1\_subset\_1 (k9\_binop\_2 X0 X1) k1\_numbers) \quad (4)$$

Assume the following.

$$\forall X0.(v2\_membered X0) \Rightarrow ((v3\_xxreal\_2 X0) \Leftrightarrow (\exists X1.(v1\_xreal\_0 X1) \wedge (m2\_xxreal\_2 X1 X0))) \quad (5)$$

Assume the following.

$$\forall X0.(v2\_membered X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow ((m2\_xxreal\_2 X1 X0) \Leftrightarrow (\forall X2.(v1\_xxreal\_0 X2) \Rightarrow ((X2 \in X0) \Rightarrow (r1\_xxreal\_0 X1 X2)))))) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(v3\_membered\ X0) \Rightarrow & ((v3\_xxreal\_2\ X0) \Rightarrow ((v1\_xboole\_0 \\ & X0) \vee (\forall X1.(v1\_xreal\_0\ X1) \Rightarrow ((X1 = k3\_seq\_4\ X0) \Leftrightarrow ((\forall X2. \\ & (v1\_xreal\_0\ X2) \Rightarrow ((X2 \in X0) \Rightarrow (r1\_xxreal\_0\ X1\ X2)))) \wedge (\forall X2. \\ & (v1\_xreal\_0\ X2) \Rightarrow (\neg(\neg r1\_xxreal\_0\ X2\ k6\_numbers) \wedge (\forall X3. \\ & (v1\_xreal\_0\ X3) \Rightarrow (\neg(X3 \in X0) \wedge (\neg r1\_xxreal\_0\ (k9\_binop\_2\ X1\ X2\ X3)))))))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Leftrightarrow (\forall X1.\neg X1 \in X0) \quad (8)$$

Assume the following.

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

Assume the following.

$$\forall X0.(v3\_membered\ X0) \Rightarrow (v2\_membered\ X0) \quad (10)$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers) \Rightarrow (v1\_xreal\_0\ X0) \quad (11)$$

Assume the following.

$$\forall X0.(v3\_membered\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ X0) \Rightarrow (v1\_xreal\_0\ X1)) \quad (12)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(v1\_xreal\_0\ X0) \Rightarrow & (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge ( \\ & v3\_membered\ X1)) \Rightarrow (((\forall X2.(v1\_xreal\_0\ X2) \Rightarrow ((X2 \in X1) \Rightarrow (r1\_xxreal\_0 \\ & X0\ X2))) \wedge (\forall X2.(v1\_xreal\_0\ X2) \Rightarrow ((\forall X3.(v1\_xreal\_0 \\ & X3) \Rightarrow ((X3 \in X1) \Rightarrow (r1\_xxreal\_0\ X2\ X3))) \Rightarrow (r1\_xxreal\_0\ X2\ X0)))) \Rightarrow ( \\ & X0 = k3\_seq\_4\ X1))) \end{aligned}$$