

t14\_xxreal\_1

(TMMu71shyQpSR8xJsH7McGXFcgsHTxqMkYd)

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Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k4\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_numbers : \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xxreal\_0 X2) \Rightarrow ((X0 \in k2\_xxreal\_1 X1 X2) \Leftrightarrow ((r1\_xxreal\_0 X1 X0) \wedge \\ & (\neg r1\_xxreal\_0 X2 X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (k4\_xxreal\_1 \\ & X0 X1 = ReplSep (toset (\lambda X2 : \iota.m1\_subset\_1 X2 k7\_numbers)) \\ & (\lambda X2 : \iota.(\neg r1\_xxreal\_0 X2 X0) \wedge (\neg r1\_xxreal\_0 X1 X2)) (\lambda X2 : \\ & \iota.X2))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow ( \\ & (r1\_xxreal\_0 X0 X1) \vee (r1\_xxreal\_0 X1 X0)) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k7\_numbers) \Rightarrow (v1\_xxreal\_0 X0) \quad (4)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2.(v1\_xxreal\_0 \\ & X2) \Rightarrow ((X0 \in k4\_xxreal\_1 X1 X2) \Rightarrow ((X0 \in k2\_xxreal\_1 X1 X2) \wedge (X0 \neq X1)))) \end{aligned}$$