

# t95\_xxreal\_1 (TMYqNqC- quXschQFqVT9RmGvRyMYwmskraPW)

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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  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_membered : \iota \Rightarrow o$  be given. Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xxreal\_0 X2) \Rightarrow ((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X2)) \Rightarrow \\ & (r1\_xxreal\_0 X0 X2)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xxreal\_0 X2) \Rightarrow ((X0 \in k1\_xxreal\_1 X1 X2) \Leftrightarrow ((r1\_xxreal\_0 X1 X0) \wedge \\ & (r1\_xxreal\_0 X0 X2)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow (v2\_membered (k2\_xxreal\_1 X0 X1)) \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow (v2\_membered (k1\_xxreal\_1 X0 X1)) \tag{5}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v2\_membered X0) \Rightarrow (\forall X1.(v2\_membered X1) \Rightarrow (( \\ & r1\_xboole\_0 X0 X1) \Leftrightarrow (\forall X2.(v1\_xxreal\_0 X2) \Rightarrow (\neg (X2 \in X0) \wedge ( \\ & X2 \in X1)))))) \end{aligned} \tag{6}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xxreal\_0 X2) \Rightarrow (\forall X3.(v1\_xxreal\_0 X3) \Rightarrow ((r1\_xxreal\_0 \\ & X0 X1) \Rightarrow (r1\_xboole\_0 (k2\_xxreal\_1 X2 X0) (k1\_xxreal\_1 X1 X3)))))) \end{aligned}$$