

t33\_valued\_1 (TMN-  
QwwQHKzn5AL5EkWLCprHrtByXRcVbiZ2)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $k64\_valued\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $v2\_membered : \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k2\_xxreal\_2 : \iota \Rightarrow \iota$  be given. Let  $v1\_xxreal\_2 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $v4\_membered : \iota \Rightarrow o$  be given. Let  $v5\_membered : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow (k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. ((\neg v1\_xboole\_0 X0) \wedge (v1\_relat\_1 X0)) \Rightarrow (\neg v1\_xboole\_0 (k9\_xtuple\_0 X0)) \quad (2)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge (v4\_relat\_1 X0 k5\_numbers)) \Rightarrow (v6\_membered (k9\_xtuple\_0 X0)) \quad (3)$$

Assume the following.

$$\forall X0. (v2\_membered X0) \Rightarrow (v1\_xxreal\_0 (k2\_xxreal\_2 X0)) \quad (4)$$

Assume the following.

$$\forall X0. ((v2\_membered X0) \wedge (v1\_xxreal\_2 X0)) \Rightarrow (\forall X1. (v1\_xxreal\_0 X1) \Rightarrow ((X1 = k2\_xxreal\_2 X0) \Leftrightarrow ((X1 \in X0) \wedge (\forall X2. (v1\_xxreal\_0 X2) \Rightarrow ((X2 \in X0) \Rightarrow (r1\_xxreal\_0 X1 X2)))))) \quad (5)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 X0) \wedge (\neg v1\_xboole\_0 X0)))) \Rightarrow (k64\_valued\_1 X0 = k2\_xxreal\_2 (k1\_relset\_1 k5\_numbers X0)) \quad (6)$$

Assume the following.

$$\forall X0.(v3\_membered\ X0)\Rightarrow(v2\_membered\ X0) \quad (7)$$

Assume the following.

$$\forall X0.((v6\_membered\ X0)\wedge(\neg v1\_xboole\_0\ X0))\Rightarrow((v6\_membered\ X0)\wedge((\neg v1\_xboole\_0\ X0)\wedge(v1\_xxreal\_2\ X0))) \quad (8)$$

Assume the following.

$$\forall X0.(v4\_membered\ X0)\Rightarrow(v3\_membered\ X0) \quad (9)$$

Assume the following.

$$\forall X0.(v5\_membered\ X0)\Rightarrow(v4\_membered\ X0) \quad (10)$$

Assume the following.

$$\forall X0.(v6\_membered\ X0)\Rightarrow(v5\_membered\ X0) \quad (11)$$

**Theorem 1**

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v4\_relat\_1\ X0\ k5\_numbers)\wedge((v1\_funct\_1\ X0)\wedge((\neg v1\_xboole\_0\ X0)\wedge(v1\_finset\_1\ X0))))))\Rightarrow(k64\_valued\_1\ X0 \in k1\_relset\_1\ k5\_numbers\ X0)$$