

# l16\_convfun1

(TMPTv9MDmqVqmZd6TFwmMtMnqEfJ1bkKAMp)

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Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_numbers : \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_supinf\_2 : \iota$  be given. Let  $k4\_extreal1 : \iota \Rightarrow \iota$  be given. Let  $k6\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $k9\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k7\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k8\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k3\_supinf\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xxreal\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k12\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v3\_xxreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$k4\_extreal1 (k6\_finseq\_1 k7\_numbers) = k1\_supinf\_2 \quad (1)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 \\ X1))) \Rightarrow ((X1 = k9\_finseq\_1 X0) \Leftrightarrow ((k4\_finseq\_1 X1 = k2\_finseq\_1 np\_1) \wedge \\ (k10\_xtuple\_0 X1 = k1\_tarski X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski (k1\_tarski X0) X1) \Leftrightarrow (X0 \in X1) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ (\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 \\ X1))) \Rightarrow (k10\_xtuple\_0 (k7\_finseq\_1 X0 X1) = k2\_xboole\_0 (k10\_xtuple\_0 \\ X0) (k10\_xtuple\_0 X1))) \end{aligned} \quad (5)$$

Assume the following.

$$m1\_subset\_1 k1\_xboole\_0 k4\_ordinal1 \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (r1\_tarski (k2\_xboole\_0 X0 X1) X2) \Rightarrow (r1\_tarski X0 X2) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0 : \iota \Rightarrow o. \forall X1. ((X0 (k6\_finseq\_1 X1)) \wedge (\forall X2. \\ (m2\_finseq\_1 X2 X1) \Rightarrow (\forall X3. (m1\_subset\_1 X3 X1) \Rightarrow ((X0 X2) \Rightarrow \\ (X0 (k7\_finseq\_1 X2 (k9\_finseq\_1 X3)))))) \Rightarrow (\forall X2. (m2\_finseq\_1 \\ X2 X1) \Rightarrow (X0 X2))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (9)$$

Assume the following.

$$\forall X0. k9\_finseq\_1 X0 = k5\_finseq\_1 X0 \quad (10)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((m1\_finseq\_1 X1 X0) \wedge (m1\_finseq\_1 X2 X0)) \Rightarrow (k8\_finseq\_1 X0 X1 X2 = k7\_finseq\_1 X1 X2) \quad (11)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge (m1\_subset\_1 X1 X0)) \Rightarrow (k6\_domain\_1 X0 X1 = k1\_tarski X1) \quad (12)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (13)$$

Assume the following.

$$\forall X0. \forall X1. ((m1\_subset\_1 X0 k7\_numbers) \wedge (m1\_subset\_1 X1 k7\_numbers)) \Rightarrow (k3\_supinf\_2 X0 X1 = k1\_xreal\_3 X0 X1) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v5\_relat\_1 X1 X0))\Rightarrow(k2\_relset\_1 X0 X1 = k10\_xtuple\_0 X1) \quad (15)$$

Assume the following.

$$k1\_supinf\_2 = k1\_xboole\_0 \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge(m1\_subset\_1 X1 X0))\Rightarrow(k12\_finseq\_1 X0 X1 = k5\_finseq\_1 X1) \quad (17)$$

Assume the following.

$$\forall X0.(m2\_finseq\_1 X0 k7\_numbers)\Rightarrow(\forall X1.(m1\_subset\_1 X1 k7\_numbers)\Rightarrow(k4\_extreal1 (k8\_finseq\_1 k7\_numbers X0 (k12\_finseq\_1 k7\_numbers X1)) = k3\_supinf\_2 (k4\_extreal1 X0 X1))) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_xxreal\_0 X0)\wedge(\neg v2\_xxreal\_0 X0))\wedge((v1\_xxreal\_0 X1)\wedge(\neg v2\_xxreal\_0 X1)))\Rightarrow((v1\_xxreal\_0 (k1\_xxreal\_3 X0 X1))\wedge(\neg v2\_xxreal\_0 (k1\_xxreal\_3 X0 X1))) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_xxreal\_0 X0)\wedge(\neg v3\_xxreal\_0 X0))\wedge((v1\_xxreal\_0 X1)\wedge(\neg v3\_xxreal\_0 X1)))\Rightarrow((v1\_xxreal\_0 (k1\_xxreal\_3 X0 X1))\wedge(\neg v3\_xxreal\_0 (k1\_xxreal\_3 X0 X1))) \quad (20)$$

Assume the following.

$$\forall X0.v1\_finseq\_1 (k5\_finseq\_1 X0) \quad (21)$$

Assume the following.

$$\forall X0.(v1\_relat\_1 (k5\_finseq\_1 X0))\wedge(v1\_funct\_1 (k5\_finseq\_1 X0)) \quad (22)$$

Assume the following.

$$\neg v1\_xboole\_0 k7\_numbers \quad (23)$$

Assume the following.

$$v1\_xboole\_0 k1\_xboole\_0 \quad (24)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1 X1 X0)\Rightarrow((v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1)) \quad (25)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_finseq\_1 X1 X0)\wedge(m1\_finseq\_1 X2 X0))\Rightarrow(m2\_finseq\_1 (k8\_finseq\_1 X0 X1 X2) X0) \quad (26)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 X0)\wedge(v1\_xxreal\_0 X1))\Rightarrow(v1\_xxreal\_0 (k1\_xxreal\_3 X0 X1)) \quad (27)$$

Assume the following.

$$m1\_subset\_1 k1\_supinf\_2 k7\_numbers \quad (28)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge(m1\_subset\_1 X1 X0))\Rightarrow(m2\_finseq\_1 (k12\_finseq\_1 X0 X1) X0) \quad (29)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1\_tarski X0)\Leftrightarrow(\forall X2.(X2 \in X1)\Leftrightarrow(X2 = X0)) \quad (30)$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0 X0 X1 = k2\_xboole\_0 X1 X0 \quad (31)$$

Assume the following.

$$\forall X0.((v1\_xxreal\_0 X0)\wedge((\neg v2\_xxreal\_0 X0)\wedge(\neg v3\_xxreal\_0 X0)))\Rightarrow((v1\_xboole\_0 X0)\wedge(v1\_xxreal\_0 X0)) \quad (32)$$

Assume the following.

$$\forall X0.((v1\_xxreal\_0 X0)\wedge(v2\_xxreal\_0 X0))\Rightarrow((\neg v1\_xboole\_0 X0)\wedge((v1\_xxreal\_0 X0)\wedge(\neg v3\_xxreal\_0 X0))) \quad (33)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1 X1 X0)\Rightarrow(v5\_relat\_1 X1 X0) \quad (34)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k5\_numbers)\Rightarrow(\neg v3\_xxreal\_0 X0) \quad (35)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k7\_numbers)\Rightarrow(v1\_xxreal\_0 X0) \quad (36)$$

**Theorem 1**

$$\forall X0.(m2\_finseq\_1 X0 k7\_numbers)\Rightarrow((r1\_tarski (k2\_relset\_1 k7\_numbers X0) (k6\_domain\_1 k7\_numbers k1\_supinf\_2))\Rightarrow(k4\_extreal1 X0 = k1\_supinf\_2))$$