

t87\_funcop\_1  
(TMKRmwht2VuRUrMDoNUXeENrMaQvS6AG5Sp)

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Let  $r1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole_0 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_xtuple_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $v1\_relat_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. (X1 \in X0) \Rightarrow (k1\_funct_1 (k2\_funcop_1 X0 X2) X1 = X2) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1\_xboole_0 X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (\neg (\neg r1\_xboole_0 X0 X1) \wedge (\forall X2. \neg (X2 \in X0) \wedge (X2 \in X1))) \wedge (\neg (\exists X2. (X2 \in X0) \wedge (X2 \in X1)) \wedge (r1\_xboole_0 X0 X1)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (k9\_xtuple_0 (k2\_funcop_1 X0 X1) = X0) \wedge (r1\_tarski (k10\_xtuple_0 (k2\_funcop_1 X0 X1)) (k1\_tarski X1)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (((v1\_relat_1 X0) \wedge (v1\_funct_1 X0)) \wedge ((v1\_relat_1 X1) \wedge (v1\_funct_1 X1))) \Rightarrow ((r1\_partfun1 X0 X1) \Rightarrow (r1\_partfun1 X1 X0)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.k7\_funcop\_1 X0 X1 = k2\_funcop\_1 X0 X1 \quad (6)$$

Assume the following.

$$\exists X0.v1\_xboole\_0 X0 \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(v1\_relat\_1 (k2\_funcop\_1 X0 X1)) \wedge ((v4\_relat\_1 \\ (k2\_funcop\_1 X0 X1) X0) \wedge (v1\_funct\_1 (k2\_funcop\_1 X0 X1)) \wedge (v1\_partfun1 \\ (k2\_funcop\_1 X0 X1) X0)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(v1\_funct\_1 (k7\_funcop\_1 X0 X1)) \wedge ((v1\_funct\_2 \\ (k7\_funcop\_1 X0 X1) X0 (k1\_tarSKI X1)) \wedge (m1\_subset\_1 (k7\_funcop\_1 \\ X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 (k1\_tarSKI X1)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(X2 = k3\_xboole\_0 X0 X1) \Leftrightarrow (\forall X3. \\ (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (X3 \in X1))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.(( \\ v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow ((r1\_partfun1 X0 X1) \Leftrightarrow (\forall X2. \\ (X2 \in k3\_xboole\_0 (k9\_xtuple\_0 X0) (k9\_xtuple\_0 X1)) \Rightarrow (k1\_funct\_1 \\ X0 X2 = k1\_funct\_1 X1 X2)))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0 X0 X1 = k3\_xboole\_0 X1 X0 \quad (12)$$

**Theorem 1**

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.(r1\_partfun1 (k7\_funcop\_1 \\ X0 X2) (k7\_funcop\_1 X1 X3)) \Leftrightarrow ((X2 = X3) \vee (r1\_xboole\_0 X0 X1)) \end{aligned}$$