

## t65\_funct\_4

(TMTU6nx39RoytJywk28C5iNhVkmNmyKs4bb)

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Let  $k4\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k1\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k2\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k16\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (k2\_zfmisc\_1 (k2\_xboole\_0 X0 \\ & X1) X2 = k2\_xboole\_0 (k2\_zfmisc\_1 X0 X2) (k2\_zfmisc\_1 X1 X2)) \wedge (k2\_zfmisc\_1 \\ & X2 (k2\_xboole\_0 X0 X1) = k2\_xboole\_0 (k2\_zfmisc\_1 X2 X0) (k2\_zfmisc\_1 \\ & X2 X1)) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. (r1\_partfun1 (k7\_funcop\_1 X0 X2) (k7\_funcop\_1 X1 X3)) \Leftrightarrow ((X2 = X3) \vee (r1\_xboole\_0 X0 X1)) \tag{2}$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1. ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow ((r1\_partfun1 X0 X1) \Leftrightarrow (k2\_xboole\_0 X0 X1 = k1\_funct\_4 X0 X1))) \tag{3}$$

Assume the following.

$$\forall X0. k2\_tarski X0 X0 = k1\_tarski X0 \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. k2\_tarski X0 X1 = k2\_xboole\_0 (k1\_tarski X0) (k1\_tarski X1) \tag{5}$$

Assume the following.

$$\forall X0. \forall X1. k7\_funcop\_1 X0 X1 = k2\_funcop\_1 X0 X1 \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.v1\_relat\_1 (k2\_zfmisc\_1 X0 X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1 (k16\_funcop\_1 X0 X1)) \wedge (v1\_funct\_1 (k16\_funcop\_1 X0 X1)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.k16\_funcop\_1 X0 X1 = k7\_funcop\_1 (k1\_tarski X0) X1 \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.k4\_funct\_4 X0 X1 X2 X3 = k1\_funct\_4 (k16\_funcop\_1 X0 X2) (k16\_funcop\_1 X1 X3) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.k2\_funcop\_1 X0 X1 = k2\_zfmisc\_1 X0 (k1\_tarski X1) \quad (11)$$

**Theorem 1**

$$\forall X0.\forall X1.\forall X2.k4\_funct\_4 X0 X1 X2 X2 = k7\_funcop\_1 (k2\_tarski X0 X1) X2$$