

t7\_algspec1  
(TMYcUcLiWugy1S9dAfrwsvS4UaqLCj9e4Ak)

October 27, 2020

Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_algspec1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k7\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_relat\_1 : \iota \Rightarrow \iota$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_partfun1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (k7\_relat\_1 (k4\_relat\_1 X0) X1 = X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 X1) \Rightarrow (k9\_xtuple\_0 (k5\_relat\_1 X1 X0) = k3\_xboole\_0 (k9\_xtuple\_0 X1) X0) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. k4\_xboole\_0 X0 (k3\_xboole\_0 X0 X1) = k4\_xboole\_0 X0 X1 \quad (3)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1. ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (k10\_xtuple\_0 (k1\_funct\_4 X0 X1) = k2\_xboole\_0 (k7\_relat\_1 X0 (k6\_subset\_1 (k9\_xtuple\_0 X0) (k9\_xtuple\_0 X1))) (k10\_xtuple\_0 X1))) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 X1) \Rightarrow (k10\_xtuple\_0 (k5\_relat\_1 X1 X0) = k7\_relat\_1 X1 X0) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. k6\_subset\_1 X0 X1 = k4\_xboole\_0 X0 X1 \quad (6)$$

Assume the following.

$$\forall X0.k6\_partfun1\ X0 = k4\_relat\_1\ X0 \quad (7)$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow (k5\_relat\_1\ X0\ (k9\_xtuple\_0\ X0) = X0) \quad (8)$$

Assume the following.

$$\forall X0.k9\_xtuple\_0\ (k4\_relat\_1\ X0) = X0 \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \Rightarrow ((v1\_relat\_1\ (k5\_relat\_1\ X0\ X1)) \wedge (v1\_funct\_1\ (k5\_relat\_1\ X0\ X1))) \quad (10)$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ (k4\_relat\_1\ X0)) \wedge (v1\_funct\_1\ (k4\_relat\_1\ X0)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.m1\_subset\_1\ (k6\_subset\_1\ X0\ X1)\ (k1\_zfmisc\_1\ X0) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1\ X0) \Rightarrow (v1\_relat\_1\ (k5\_relat\_1\ X0\ X1)) \quad (13)$$

Assume the following.

$$\forall X0.v1\_relat\_1\ (k4\_relat\_1\ X0) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge (v1\_funct\_1\ X1)) \Rightarrow (k1\_algspec1\ X0\ X1 = k1\_funct\_4\ (k6\_partfun1\ X0)\ (k5\_relat\_1\ X1\ X0)) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0\ X0\ X1 = k3\_xboole\_0\ X1\ X0 \quad (16)$$

**Theorem 1**

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge (v1\_funct\_1\ X1)) \Rightarrow (k10\_xtuple\_0\ (k1\_algspec1\ X0\ X1) = k2\_xboole\_0\ (k6\_subset\_1\ X0\ (k9\_xtuple\_0\ X1))\ (k7\_relat\_1\ X1\ X0))$$