

t16\_bagorder  
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Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_bagorder : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k16\_pre\_poly : \iota \Rightarrow \iota$  be given. Let  $k7\_nat\_d : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k15\_pre\_poly : \iota \Rightarrow \iota$  be given. Let  $k14\_pre\_poly : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k1\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v4\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v4\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v2\_pre\_poly : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. k1\_funct\_1 (k16\_pre\_poly X0) X1 = k6\_numbers \quad (1)$$

Assume the following.

$$\forall X0. k15\_pre\_poly X0 = k14\_pre\_poly X0 \quad (2)$$

Assume the following.

$$\forall X0. \neg v1\_xboole\_0 (k14\_pre\_poly X0) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2. (m2\_subset\_1 X2 X0 X1) \Rightarrow (m1\_subset\_1 X2 X0)) \quad (4)$$

Assume the following.

$$\forall X0. m2\_subset\_1 (k16\_pre\_poly X0) (k14\_pre\_poly X0) (k15\_pre\_poly X0) \quad (5)$$

Assume the following.

$$\forall X0. m1\_subset\_1 (k15\_pre\_poly X0) (k1\_zfmisc\_1 (k14\_pre\_poly X0)) \quad (6)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow (\forall X2. \\
& (v7\_ordinal1\ X2) \Rightarrow (\forall X3.((v1\_relat\_1\ X3) \wedge ((v4\_relat\_1 \\
& X3\ X0) \wedge ((v1\_funct\_1\ X3) \wedge (v1\_partfun1\ X3\ X0)))) \Rightarrow (\forall X4.( \\
& (v1\_relat\_1\ X4) \wedge ((v4\_relat\_1\ X4\ (k7\_nat\_d\ X2\ X1)) \wedge ((v1\_funct\_1 \\
& X4) \wedge (v1\_partfun1\ X4\ (k7\_nat\_d\ X2\ X1)))))) \Rightarrow ((X4 = k1\_bagorder\ X0 \\
& X1\ X2\ X3) \Leftrightarrow (\forall X5.(m2\_subset\_1\ X5\ k1\_numbers\ k5\_numbers) \Rightarrow \\
& ((X5 \in k7\_nat\_d\ X2\ X1) \Rightarrow (k1\_funct\_1\ X4\ X5 = k1\_funct\_1\ X3\ (k1\_nat\_1 \\
& X1\ X5)))))))))
\end{aligned} \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k15\_pre\_poly\ X0))) \Rightarrow (v4\_funct\_1\ X1) \tag{8}$$

Assume the following.

$$\forall X0.(v4\_funct\_1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ X0) \Rightarrow (v1\_relat\_1\ X1) \wedge (v1\_funct\_1\ X1)) \tag{9}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)) \Rightarrow (v1\_xboole\_0\ X1)) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k15\_pre\_poly\ X0)))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ X1) \Rightarrow ((v1\_partfun1\ X2\ X0) \wedge ((v4\_valued\_0\ X2) \wedge (v2\_pre\_poly\ X2)))) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k15\_pre\_poly\ X0))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ X1) \Rightarrow (v4\_relat\_1\ X2\ X0)) \tag{12}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow (\forall X2. \\
& (v7\_ordinal1\ X2) \Rightarrow (k1\_bagorder\ X2\ X0\ X1\ (k16\_pre\_poly\ X2) = k16\_pre\_poly \\
& (k7\_nat\_d\ X1\ X0))))
\end{aligned}$$