

## t33\_int\_4

(TMbqWZ3YjvevjpgiintEwL3fEPaf4XyexkB)

October 27, 2020

Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $m1\_trees\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_nat\_d : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_recdef\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_wsierp\_1 : \iota \Rightarrow \iota$  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  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v4\_valued\_0 : \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow (\forall X2. \\ (v7\_ordinal1\ X2) \Rightarrow (((r1\_nat\_d\ X0\ X1) \wedge (r1\_nat\_d\ X1\ X2)) \Rightarrow (r1\_nat\_d \\ X0\ X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_trees\_4\ X0\ k1\_numbers\ k5\_numbers) \Rightarrow (\forall X1. \\ (v7\_ordinal1\ X1) \Rightarrow ((X1 \in k1\_relset\_1\ k5\_numbers\ X0) \Rightarrow (r1\_nat\_d \\ (k1\_recdef\_1\ X0\ X1)\ (k3\_wsierp\_1\ X0)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge \\ (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 \\ X2\ X0\ X1) \Leftrightarrow (m1\_subset\_1\ X2\ X1)) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1 \\ X0))) \Rightarrow (\forall X2.(m1\_trees\_4\ X2\ X0\ X1) \Leftrightarrow (m1\_finseq\_1\ X2\ X1)) \end{aligned} \tag{4}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v4\_valued\_0 X0)))\Rightarrow(k1\_recdef\_1 X0 X1 = k1\_funct\_1 X0 X1) \quad (6)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1)\wedge(v3\_ordinal1 k4\_ordinal1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v4\_valued\_0 X0)))\Rightarrow(v7\_ordinal1 (k1\_funct\_1 X0 X1)) \quad (8)$$

Assume the following.

$$\neg v1\_xboole\_0 k1\_numbers \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1 X1 X0)\Rightarrow((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1))) \quad (10)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (11)$$

Assume the following.

$$\forall X0.(m1\_finseq\_1 X0 k5\_numbers)\Rightarrow(m2\_subset\_1 (k3\_wsierp\_1 X0) k1\_numbers k5\_numbers) \quad (12)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1)\Rightarrow(v7\_ordinal1 X0) \quad (13)$$

Assume the following.

$$\forall X0.(m1\_finseq\_1 X0 k5\_numbers)\Rightarrow(v4\_valued\_0 X0) \quad (14)$$

**Theorem 1**

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(\forall X1.(m1\_trees\_4 X1 k1\_numbers k5\_numbers)\Rightarrow(\forall X2.(v7\_ordinal1 X2)\Rightarrow(((X2 \in k1\_relset\_1 k5\_numbers X1)\wedge(r1\_nat\_d X0 (k1\_recdef\_1 X1 X2)))\Rightarrow(r1\_nat\_d X0 (k3\_wsierp\_1 X1))))))$$