

t10\_nat\_4  
(TMa1yCX4J8gDVQ6uwE9Z1XHFTcBCZcdJaML)

October 27, 2020

Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k6\_nat\_d : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k1\_newton : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_int\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k3\_int\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_int\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow (( \\ r1\_int\_2\ X0\ X1) \Rightarrow ((X0 = k1\_xboole\_0) \vee ((X1 = k1\_xboole\_0) \vee (\forall X2. \\ (v7\_ordinal1\ X2) \Rightarrow (r1\_int\_2\ (k1\_newton\ X0\ X2)\ X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0) \wedge (v7\_ordinal1\ X1)) \Rightarrow ( \\ k6\_nat\_d\ X0\ X1 = k3\_int\_2\ X0\ X1) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0) \wedge (v7\_ordinal1\ X1)) \Rightarrow ( \\ v7\_ordinal1\ (k1\_newton\ X0\ X1)) \quad (4)$$

Assume the following.

$$\forall X0.(v1\_int\_1\ X0) \Rightarrow (\forall X1.(v1\_int\_1\ X1) \Rightarrow ((r1\_int\_2 \\ X0\ X1) \Leftrightarrow (k3\_int\_2\ X0\ X1 = np\_1))) \quad (5)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (v1\_int\_1\ X0) \quad (6)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow (\forall X2. \\ (v7\_ordinal1\ X2) \Rightarrow ((k6\_nat\_d\ X1\ X2 = np\_1) \Rightarrow ((X1 = k6\_numbers) \vee \\ ((X2 = k6\_numbers) \vee (k6\_nat\_d\ (k1\_newton\ X1\ X0)\ X2 = np\_1)))))) \end{aligned}$$