

t26_ordinal4

(TMHxX1dtVXLyKdAxscEG6fxBgS8rjxvrtDY)

October 27, 2020

Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $v4_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v5_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_ordinal2 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_ordinal2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal2 : \iota \Rightarrow \iota$ be given. Let $v2_ordinal2 : \iota \Rightarrow o$ be given. Let $r1_ordinal2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_ordinal2 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v5_ordinal1 X0) \wedge ((v1_funct_1 \\ X0) \wedge (v1_ordinal2 X0)))) \Rightarrow (((v4_ordinal1 (k9_xtuple_0 X0)) \wedge \\ v2_ordinal2 X0)) \Rightarrow ((k9_xtuple_0 X0 = k1_xboole_0) \vee ((r1_ordinal2 \\ (k4_ordinal2 X0) X0) \wedge (k8_ordinal2 X0 = k4_ordinal2 X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(v3_ordinal1 X0) \Rightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow ((\\ v4_ordinal1 X0) \Rightarrow ((X0 = k1_xboole_0) \vee (\forall X2.((v5_ordinal1 \\ X2) \wedge ((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (v1_ordinal2 X2)))) \Rightarrow \\ (((k9_xtuple_0 X2 = X0) \wedge (\forall X3.(v3_ordinal1 X3) \Rightarrow ((X3 \in X0) \Rightarrow \\ (k1_funct_1 X2 X3 = k12_ordinal2 X1 X3)))) \Rightarrow (k12_ordinal2 X1 X0 = \\ k8_ordinal2 X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v5_ordinal1 X0) \wedge ((v1_funct_1 \\ X0) \wedge (v1_ordinal2 X0)))) \Rightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow (((np_1 \in \\ X1) \wedge (\forall X2.(v3_ordinal1 X2) \Rightarrow ((X2 \in k9_xtuple_0 X0) \Rightarrow (k1_funct_1 \\ X0 X2 = k12_ordinal2 X1 X2)))) \Rightarrow (v2_ordinal2 X0))) \end{aligned} \quad (3)$$

Theorem 1

$$\begin{aligned} \forall X0.(v3_ordinal1 X0) \Rightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow ((\\ (np_1 \in X0) \wedge (v4_ordinal1 X1)) \Rightarrow ((X1 = k1_xboole_0) \vee (\forall X2. \\ ((v1_relat_1 X2) \wedge ((v5_ordinal1 X2) \wedge ((v1_funct_1 X2) \wedge (v1_ordinal2 \\ X2)))) \Rightarrow (((k9_xtuple_0 X2 = X1) \wedge (\forall X3.(v3_ordinal1 X3) \Rightarrow \\ ((X3 \in X1) \Rightarrow (k1_funct_1 X2 X3 = k12_ordinal2 X0 X3)))) \Rightarrow (k12_ordinal2 \\ X0 X1 = k4_ordinal2 X2)))))) \end{aligned}$$