t43_ordinal2 (TMFBrhRqFyeu-vMgJKK3aiSEHJTAdkvs23WG)

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Let $v3\_ordinal1 : \iota \Rightarrow o$ be given. Let $k12\_ordinal2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $np\_\_1 : \iota$ be given. Let $v5\_ordinal1 : \iota \Rightarrow o$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_ordinal2 : \iota \Rightarrow o$ be given. Let $k1\_ordinal2 : \iota \Rightarrow \iota$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_ordinal1 : \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4\_ordinal1 : \iota \Rightarrow o$ be given. Let $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11\_ordinal2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8\_ordinal2 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0 : \iota \Rightarrow \iota \Rightarrow \iota . \forall X1 : \iota \Rightarrow \iota \Rightarrow \iota . \forall X2 . \forall X3 : \iota \Rightarrow \iota . ((\forall X4 . v3\_ordinal1\ (X3\ X4)) \wedge ((v3\_ordinal1\ X2) \wedge ((\forall X4 . \forall X5 . v3\_ordinal1\ (X1\ X4\ X5)) \wedge (\forall X4 . \forall X5 . v3\_ordinal1\ (X0\ X4\ X5))))) \Rightarrow ((\forall X4 . (v3\_ordinal1\ X4) \Rightarrow (\forall X5 . (v3\_ordinal1\ X5) \Rightarrow ((X5 = X3\ X4) \Leftrightarrow (\exists X6 . ((v5\_ordinal1\ X6) \wedge ((v1\_relat\_1\ X6) \wedge ((v1\_funct\_1\ X6) \wedge (v1\_ordinal2\ X6)))) \wedge ((X5 = k1\_ordinal2\ X6) \wedge ((k9\_xtuple\_0\ X6 = k1\_ordinal1\ X4) \wedge ((k1\_funct\_1\ X6\ k1\_xboole\_0 = X2) \wedge ((\forall X7 . (v3\_ordinal1\ X7) \Rightarrow ((k1\_ordinal1\ X7 \in k1\_ordinal1\ X4) \Rightarrow (k1\_funct\_1\ X6\ (k1\_ordinal1\ X7) = X1\ X7\ (k1\_funct\_1\ X6\ X7)))) \wedge (\forall X7 . (v3\_ordinal1\ X7) \Rightarrow (((X7 \in k1\_ordinal1\ X4) \wedge (v4\_ordinal1\ X7)) \Rightarrow ((X7 = k1\_xboole\_0) \vee (k1\_funct\_1\ X6\ X7 = X0\ X7\ (k5\_relat\_1\ X6\ X7)))))))))))) \Rightarrow (X3\ k1\_xboole\_0 = X2)) \tag{1}$$

Assume the following.

$$\forall X0 . (v3\_ordinal1\ X0) \Rightarrow (\forall X1 . (v3\_ordinal1\ X1) \Rightarrow (\forall X2 . (v3\_ordinal1\ X2) \Rightarrow ((X2 = k12\_ordinal2\ X0\ X1) \Leftrightarrow (\exists X3 . ((v5\_ordinal1\ X3) \wedge ((v1\_relat\_1\ X3) \wedge ((v1\_funct\_1\ X3) \wedge (v1\_ordinal2\ X3))))) \wedge ((X2 = k1\_ordinal2\ X3) \wedge ((k9\_xtuple\_0\ X3 = k1\_ordinal1\ X1) \wedge ((k1\_funct\_1\ X3\ k1\_xboole\_0 = np\_\_1) \wedge ((\forall X4 . (v3\_ordinal1\ X4) \Rightarrow ((k1\_ordinal1\ X4 \in k1\_ordinal1\ X1) \Rightarrow (k1\_funct\_1\ X3\ (k1\_ordinal1\ X4) = k11\_ordinal2\ X0\ (k1\_funct\_1\ X3\ X4)))) \wedge (\forall X4 . (v3\_ordinal1\ X4) \Rightarrow (((X4 \in k1\_ordinal1\ X1) \wedge (v4\_ordinal1\ X4)) \Rightarrow ((X4 = k1\_xboole\_0) \vee (k1\_funct\_1\ X3\ X4 = k8\_ordinal2\ (k5\_relat\_1\ X3\ X4)))))))))))) \tag{2}$$

Theorem 1 $\forall X0.(v3\_ordinal1\ X0) \Rightarrow (k12\_ordinal2\ X0\ k1\_xboole\_0 = np\_\_1).$