

t10_card_2

(TMRX8SEm7DWuDXLzfV5p3mdbcu6hR8r7q5m)

October 27, 2020

Let $v1_card_1 : \iota \Rightarrow o$ be given. Let $r2_wellord2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_card_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $k10_ordinal2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v3_ordinal1 X0) \Rightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow (\forall X2. \\ & \forall X3.(X2 \neq X3) \Rightarrow ((r2_wellord2 (k10_ordinal2 X0 X1) (k2_xboole_0 \\ & (k2_zfmisc_1 X0 (k1_tarski X2)) (k2_zfmisc_1 X1 (k1_tarski X3)))) \wedge \\ & (k1_card_1 (k10_ordinal2 X0 X1) = k1_card_1 (k2_xboole_0 (k2_zfmisc_1 \\ & X0 (k1_tarski X2)) (k2_zfmisc_1 X1 (k1_tarski X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(r2_wellord2 X0 X1) \Leftrightarrow (k1_card_1 X0 = k1_card_1 X1) \quad (2)$$

Assume the following.

$$\forall X0.k1_card_1 (k1_card_1 X0) = k1_card_1 X0 \quad (3)$$

Assume the following.

$$\forall X0.(v1_card_1 X0) \Rightarrow (\forall X1.(v1_card_1 X1) \Rightarrow (k1_card_2 X0 X1 = k1_card_1 (k10_ordinal2 X0 X1))) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1_card_1 X0) \wedge (v1_card_1 X1)) \Rightarrow (k1_card_2 X0 X1 = k1_card_2 X1 X0) \quad (5)$$

Assume the following.

$$\forall X0.(v1_card_1 X0) \Rightarrow (v3_ordinal1 X0) \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v1_card_1 X0) \Rightarrow (\forall X1.(v1_card_1 X1) \Rightarrow (\forall X2. \\ & \forall X3.(X2 \neq X3) \Rightarrow ((r2_wellord2 (k1_card_2 X0 X1) (k2_xboole_0 \\ & (k2_zfmisc_1 X0 (k1_tarski X2)) (k2_zfmisc_1 X1 (k1_tarski X3)))))) \wedge \\ & (k1_card_2 X0 X1 = k1_card_1 (k2_xboole_0 (k2_zfmisc_1 X0 (k1_tarski \\ & X2)) (k2_zfmisc_1 X1 (k1_tarski X3)))))) \end{aligned}$$