

t35_card_2 (TMZTu-
CuHVjth2SNJd7sGXvKp9PvUKDNHmQL)

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Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_card_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_wellord2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $v1_card_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (r2_wellord2 (k2_zfmisc_1 X0 X1) (k2_zfmisc_1 \\ & (k1_card_1 X0) X1)) \wedge ((r2_wellord2 (k2_zfmisc_1 X0 X1) (k2_zfmisc_1 \\ & X0 (k1_card_1 X1))) \wedge ((r2_wellord2 (k2_zfmisc_1 X0 X1) (k2_zfmisc_1 \\ & (k1_card_1 X0) (k1_card_1 X1))) \wedge ((k1_card_1 (k2_zfmisc_1 X0 X1) = \\ & k1_card_1 (k2_zfmisc_1 (k1_card_1 X0) X1)) \wedge ((k1_card_1 (k2_zfmisc_1 \\ & X0 X1) = k1_card_1 (k2_zfmisc_1 X0 (k1_card_1 X1))) \wedge (k1_card_1 \\ & (k2_zfmisc_1 X0 X1) = k1_card_1 (k2_zfmisc_1 (k1_card_1 X0) (k1_card_1 \\ & X1)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (r2_wellord2 X0 (k2_zfmisc_1 X0 (k1_tarski X1))) \wedge (k1_card_1 X0 = k1_card_1 (k2_zfmisc_1 X0 (k1_tarski X1))) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (r2_wellord2 X0 X1) \Leftrightarrow (k1_card_1 X0 = k1_card_1 X1) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((r1_xboole_0 X0 \\ & X1) \wedge ((r1_xboole_0 X2 X3) \wedge ((r2_wellord2 X0 X2) \wedge (r2_wellord2 X1 \\ & X3)))) \Rightarrow (r2_wellord2 (k2_xboole_0 X0 X1) (k2_xboole_0 X2 X3)) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0. (v1_card_1 X0) \Rightarrow (\forall X1. (v1_card_1 X1) \Rightarrow (\forall X2. \\ & \forall X3. (X2 \neq X3) \Rightarrow ((r2_wellord2 (k1_card_2 X0 X1) (k2_xboole_0 \\ & (k2_zfmisc_1 X0 (k1_tarski X2)) (k2_zfmisc_1 X1 (k1_tarski X3)))) \wedge \\ & (k1_card_2 X0 X1 = k1_card_1 (k2_xboole_0 (k2_zfmisc_1 X0 (k1_tarski \\ & X2)) (k2_zfmisc_1 X1 (k1_tarski X3)))))) \end{aligned} \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(X0\neq X1)\Rightarrow(r1_xboole_0 (k2_zfmisc_1 X2 (k1_tarski X0)) (k2_zfmisc_1 X3 (k1_tarski X1))) \quad (6)$$

Assume the following.

$$\forall X0.v1_card_1 (k1_card_1 X0) \quad (7)$$

Theorem 1

$$\forall X0.\forall X1.(r1_xboole_0 X0 X1)\Rightarrow(k1_card_1 (k2_xboole_0 X0 X1) = k1_card_2 (k1_card_1 X0) (k1_card_1 X1))$$